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PART A
IONOSPHERIC DATA

ISSUED
OCTOBER 1956

U. S. DEPARTMENT OF COMMERCE
NATIONAL BUREAU OF STANDARDS
CENTRAL RADIO PROPAGATION LABORATORY
BOULDER, COLORADO

IONOSPHERIC DATA

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SYMBOLS, TERMINOLOGY, CONVENTIONS

Beginning with data reported for January 1952, the symbols, terminology, and conventions for the determination of median values used in this report (CRPL-F series) conform as far as practicable to those adopted at the Sixth Meeting of the International Radio Consultative Committee (C.C.I.R.) in Geneva, 1951. Excerpts concerning symbols and terminology from Document No. 626-E of this Meeting are given on pages 2-7 of the report CRPL-F89, "Ionospheric Data," issued January 1952. Reprints of these pages are available upon request.

Beginning with data for January 1945, median values are published wherever possible. Where averages are reported, they are, at any hour, the average for all the days during the month for which numerical data exist.

The following conventions are used in determining the medians for hours when no measured values are given because of equipment limitations and ionospheric irregularities. Symbols used are those given in Document No. 626-E referred to above, plus an additional symbol, R: "Scaling of characteristic is influenced or prevented by absorption in the neighborhood of the critical frequency," (May 1955). Also, beginning with January 1956, additional meanings are assigned to T: A smoothed value which better fits the observations, replacing a doubtful or clearly inconsistent observed value; and to U: $\text{foF2} - \text{foF1}$ is 0.5 Mc or less (used with (M3000)F2).

a. For all ionospheric characteristics:

Values missing because of A, C, F, L, M, N, Q, R, S, or T are omitted from the median count.

b. For critical frequencies and virtual heights:

Values of foF2 (and foE near sunrise and sunset) missing because of E are counted as equal to or less than the lower limit of the recorder. Values of h'F2 (and h'E near sunrise and sunset) missing for this reason are counted usually as equal to or greater than the median. Other characteristics missing because of E are omitted from the median count.

Values missing because of G are counted:

1. For foF2 , as equal to or less than foF1 .
2. For h'F2 , as equal to or greater than the median.

The symbol W is included in the median count only when it replaces a height characteristic; the symbol D, only when it replaces a frequency characteristic.

Values missing for any other reason are omitted from the median count.

c. For MUF factor (M-factors):

Values missing because of G or W are counted as equal to or less than the median.

Values missing for any other reason are omitted from the median count.

d. For sporadic E (Es):

Values of fEs missing because of E or G (and B when applied to the daytime E region only) are counted as equal to or less than the median foE, or equal to or less than the lower frequency limit of the recorder.

At night B for fEs is counted on the low side when there is a numerical value of foF2; otherwise it is omitted from the median count.

Values of fEs missing for any other reason, and values of h'Es missing for any reason at all are omitted from the median count.

Beginning with data for November 1945, doubtful monthly median values for ionospheric observations at Washington, D. C., are indicated by parentheses, in accordance with the practice already in use for doubtful hourly values. The following are the conventions used to determine whether or not a median value is doubtful:

1. If the count is four or less, the data are considered insufficient and no median value is computed.

2. For the F2 layer or sporadic E, if the count is from five to nine, the median is considered doubtful. The E and F1 layers are so regular in their characteristics that, as long as the count is at least five, the median is not considered doubtful.

3. For all layers, if more than half of the data used to compute the median are doubtful (either doubtful or interpolated), the median is considered doubtful.

The same conventions are used by the CRPL in computing the medians from tabulations of daily and hourly data for stations other than Washington, beginning with the tables in IRPL-F18.

The tables and graphs of ionospheric data are correct for the values reported to the CRPL, but, because of variations in practice

in the interpretation of records and scaling and manner of reporting of values, may at times give an erroneous conception of typical ionospheric characteristics at the station. Some of the errors are due to:

- a. Differences in scaling records when spread echoes are present.
- b. Omission of values when f_oF_2 is less than or equal to f_oF_1 , leading to erroneously high values of monthly averages or median values.
- c. Omission of values when critical frequencies are less than the lower frequency limit of the recorder, also leading to erroneously high values of monthly average or median values.

These effects were discussed on pages 6 and 7 of the previous F-series report IRPL-F5.

Ordinarily, a blank space in the fEs column of a table is the result of the fact that a majority of the readings for the month are below the lower limit of the recorder or less than the corresponding values of f_oE . Blank spaces at the beginning and end of columns of $h'F_1$, f_oF_1 , $h'E$, and f_oE are usually the result of diurnal variation in these characteristics. Complete absence of medians of $h'F_1$ and f_oF_1 is usually the result of seasonal effects.

The dashed-line prediction curves of the graphs of ionospheric data are obtained from the predicted zero-muf contour charts of the CRPL-D series publications. The following points are worthy of note:

- a. Predictions for individual stations used to construct the charts may be more accurate than the values read from the charts since some smoothing of the contours is necessary to allow for the longitude effect within a zone. Thus, inasmuch as the predicted contours are for the center of each zone, part of the discrepancy between the predicted and observed values as given in the F series may be caused by the fact that the station is not centrally located within the zone.
- b. The final presentation of the predictions is dependent upon the latest available ionospheric and radio propagation data, as well as upon predicted sunspot number.
- c. There is no indication on the graphs of the relative reliability of the data; it is necessary to consult the tables for such information.

PREDICTED AND OBSERVED SUNSPOT NUMBERS

The following predicted smoothed 12-month running-average Zürich sunspot numbers were used in constructing the contour charts:

Month	Predicted Sunspot Number										
	1957	1956	1955	1954	1953	1952	1951	1950	1949	1948	1947
December		150	42	11	15	33	53	86	108	114	126
November		147	35	10	16	38	52	87	112	115	124
October		135	31	10	17	43	52	90	114	116	119
September		119	30	8	18	46	54	91	115	117	121
August		105	27	8	18	49	57	96	111	123	122
July		95	22	8	20	51	60	101	108	125	116
June		89	18	9	21	52	63	103	108	129	112
May		77	16	10	22	52	68	102	108	130	109
April		68	13	10	24	52	74	101	109	133	107
March	150*	60	14	11	27	52	78	103	111	133	105
February	150*	53	14	12	29	51	82	103	113	133	90
January	150*	48	12	14	30	53	85	105	112	130	88

*This number is believed representative of solar activity at a maximum portion of the current sunspot cycle.

The latest available information follows concerning the corresponding observed Zürich numbers (some of which may be subject to minor change) beginning with the minimum of April 1954.

Observed Sunspot Number

Month	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1954				3	4	4	5	7	8	8	9	12
1955	14	16	19	23	29	35	40	46	55	64	72	80
1956	88	97	108									

WORLD - WIDE SOURCES OF IONOSPHERIC DATA

The ionospheric data given here in tables 1 to 60 and figures 1 to 120 were assembled by the Central Radio Propagation Laboratory for analysis and correlation, incidental to CRPL prediction of radio propagation conditions. The data are median values unless otherwise indicated. The following are the sources of the data in this issue:

Republica Argentina, Ministerio de Marina:
Buenos Aires, Argentina

Australian Department of Supply and Shipping, Bureau of Mineral
Resources, Geology and Geophysics:
Watheroo, Western Australia

University of Graz:
Graz, Austria

Meteorological Service of the Belgian Congo and Ruanda-Urundi:
Elisabethville, Belgian Congo
Leopoldville, Belgian Congo

Defence Research Board, Canada:
Baker Lake, Canada
Churchill, Canada
Ottawa, Canada
Resolute Bay, Canada

Radio Wave Research Laboratories, National Taiwan University, Tai-
peh, Formosa, China:
Formosa, China

Danish National Committee of URSI:
Godhavn, Greenland

National Laboratory of Radio-Electricity (French Ionospheric
Bureau):
Casablanca, Morocco
Poitiers, France

Institute for Ionospheric Research, Lindau Uber Northeim, Hannover,
Germany:
Lindau/Harz, Germany

The Royal Netherlands Meteorological Institute:
De Bilt, Holland

Ministry of Postal Services, Radio Research Laboratories, Tokyo,
Japan:
Akita, Japan
Tokyo (Kokubunji), Japan
Wakkanai, Japan
Yamagawa, Japan

Norwegian Defence Research Establishment, Kjeller per Lillestrom,
Norway:
Oslo, Norway

Manila Observatory:
Baguio, P. I.

South African Council for Scientific and Industrial Research:
Capetown, Union of South Africa
Johannesburg, Union of South Africa
Nairobi, Kenya (East African Meteorological Department)

Post, Telephone and Telegraph Administration, Berne, Switzerland:
Schwarzenburg, Switzerland

United States Army Signal Corps:
Ft. Monmouth, New Jersey
Okinawa I.
Thule, Greenland
White Sands, New Mexico

National Bureau of Standards (Central Radio Propagation Laboratory):
Fairbanks, Alaska (Geophysical Institute of the University of Alaska)
Huancayo, Peru (Instituto Geofisico de Huancayo)
Panama Canal Zone
Point Barrow, Alaska
Puerto Rico, W. I.
San Francisco, California (Stanford University)
Talara, Peru (Instituto Geofisico de Huancayo)
Washington, D. C.

HOURLY IONOSPHERIC DATA AT WASHINGTON, D. C.

The data given in tables 61 through 71 follow the scaling practices given in the report IRPL-C61, "Report of International Radio Propagation Conference," pages 36 to 39, and the median values are determined by the conventions given above under "Symbols, Terminology, Conventions." Beginning with September 1949, the data are taken at Ft. Belvoir, Virginia.

The interpretation of a cell is as follows: U F
32

The U is a weight meaning doubtful. Other weights are I, interpolated, D, greater than, and E, less than. Absence of a letter in the upper left position means full weight is given to the observation.

Symbols such as F above are given in the upper right position.

There should be no difficulty in the placing of the decimal point. For the time being, a final zero will be found in each value of foF1 and foE. Thus at a later date it will be possible to register more closely scaled values of these characteristics, whenever such are reported.

ERRATUM

F145 (Part A), p. 21, table 53: At 02, change weight of median from I to U.

The following ionograms were obtained at the NBS Anchorage, Alaska vertical sounding station. They are typical of day and night conditions for June at this geomagnetic latitude. Ionospheric data are scaled directly from these records onto the daily f-plot, a graph of frequency characteristics vs. time. The f-plot for the day represented by these soundings is found on the following page.

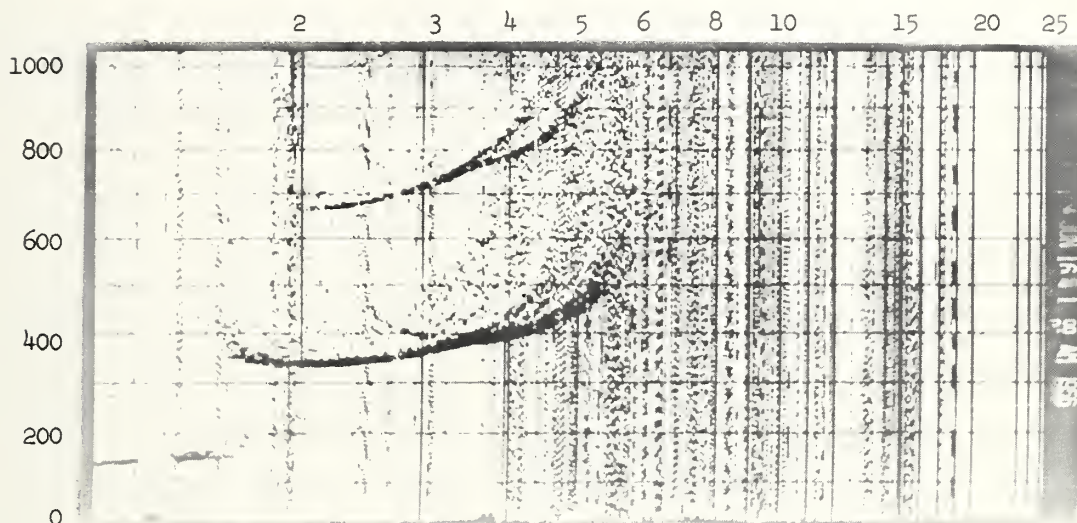


Fig. A. Anchorage, Alaska, June 16, 1956, 0100 hours, 150°W time.
foF2 = (4.7)^F, f-min = < 1.0^E, fEs = 1.7 Mc, h'F2 = 330 km,
h'Es = 140 km.

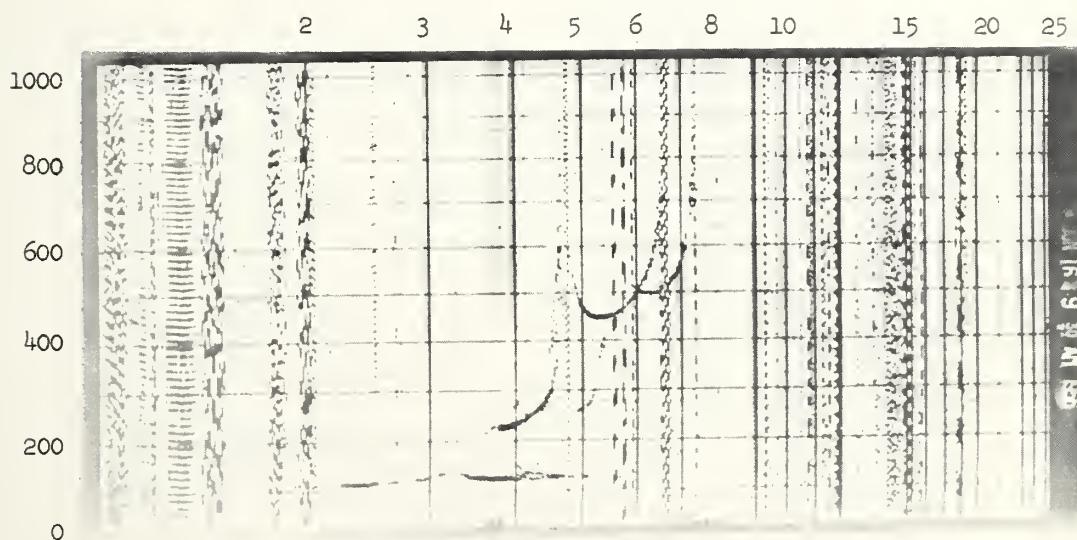
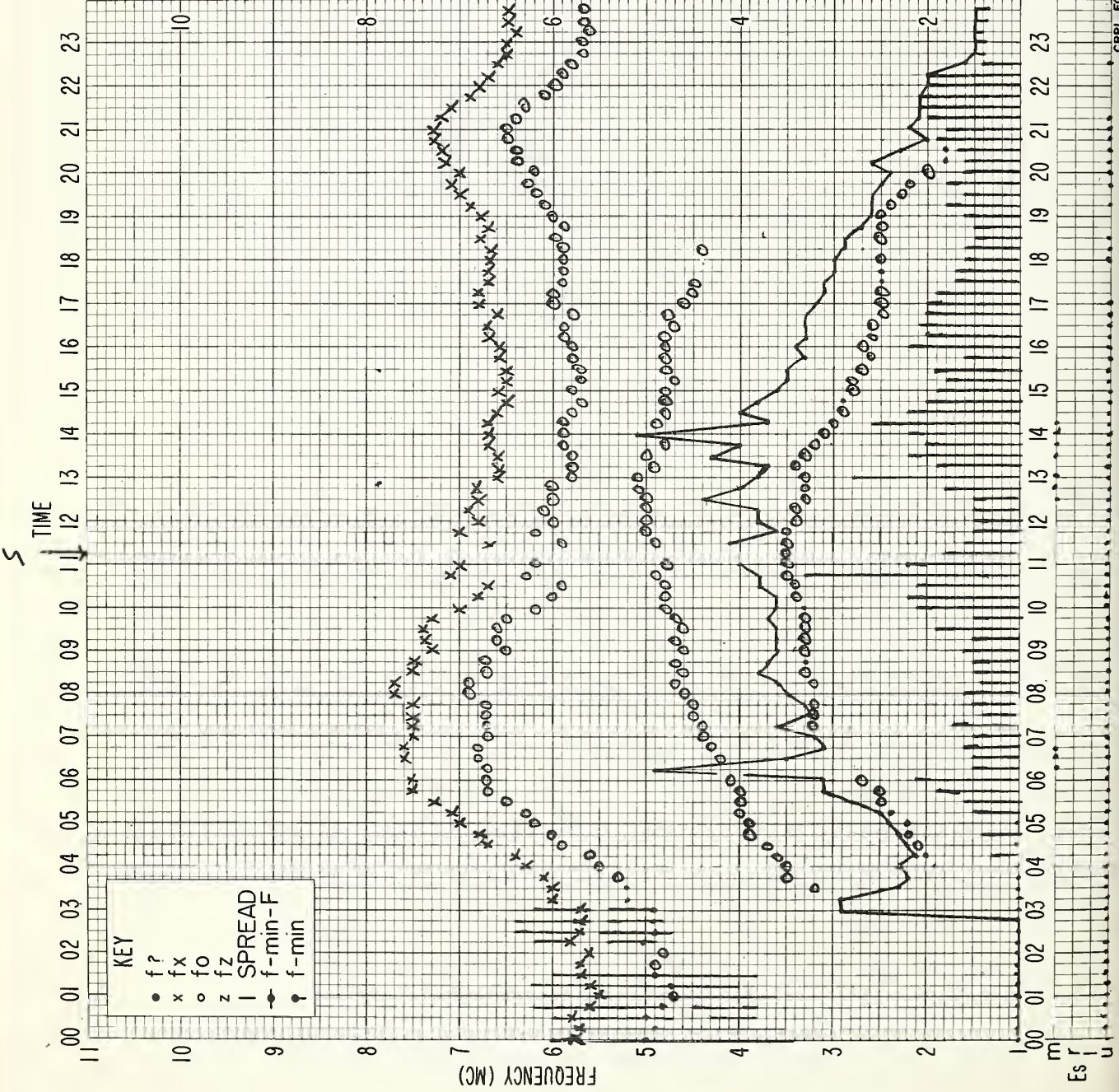


Fig. B. Anchorage, Alaska, June 16, 1956, 0930 hours, 150°W time.
foF2 = 6.6 Mc, foF1 = 4.6 Mc, foE = 3.3 Mc, fEs = 5.3 Mc,
f-min = 1.9 Mc, h'F2 = 440 km, h'F1 = 220 km, h'E = 107 km,
h'Es = 121 km.

f-PLOT OF
IONOSPHERIC DATA
JUN 16 1956

DATE
STATION Anchorage, Alaska
SCALED BY RCM
MERIDIAN TIME 150° W.

UNPLOTTED HOURLY VALUES									
HR	F2 M3000	S WY T M	F1 M3000	S WY T M	h' E	S WY T M	fEs	S WY T M	
00	2351	2F					041		
01	2301	F					016		
02	2301						017		
03	2302	F				A	058		
04	2431		310	1	101	1	026		
05	2401		315	1	101	1	036		
06	2451		345	1	125	1	094		
07	2451		345	1	103	1	043		
08	2301		355	1	103	1	037		
09	2351		365	1	103	1	058		
10	2301		360	1	109	1	044		
11	2301		365	1	109	1	042		
12	2451		355	1	103	1	056		
13	2451		360	1	115	1	063		
14	2451				A	109	068		
15	2301		330	1	109	1	051		
16	2351		340	1	109	1	042		
17	2701		335	1	105	1	028		
18	2601				L	111	032		
19	2701				L	119			
20	2801				L	131	029		
21	2901				Q		023		
22	2851								
23	2351								



TABLES OF IONOSPHERIC DATA

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Table 1

Washington, O. C. (38.7°N, 77.1°W)								September 1956
Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	280	6.4					(2.2)	2.70
01	280	6.4					(2.3)	2.70
02	270	6.0						2.70
03	270	5.4						2.70
04	270	5.0						2.75
05	260	4.7					(2.2)	2.80
06	260	5.7						3.05
07	240	7.7	240		111	2.5		3.20
08	250	9.2	230		109	3.0		3.10
09	250	9.8	220		109	3.4		3.00
10	270	10.2	210	5.5	105	3.6		2.90
11	300	10.8	210	5.8	105	3.7		2.85
12	310	10.9	210	6.0	109	3.8		2.80
13	330	11.0	215	5.5	105	3.8		2.75
14	310	11.0	220	5.5	107	3.7		2.80
15	290	10.8	230		109	3.5		2.80
16	260	10.5	235		109	3.2		2.80
17	260	10.2	240		115	2.7		2.85
18	240	10.0			121	2.0		2.90
19	240	9.0					1.8	2.90
20	250	8.2					(1.8)	2.80
21	260	7.5						2.75
22	270	7.0						2.70
23	290	6.8						2.70

Time: 75.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 2

Oslo, Norway (60.0°N, 11.1°E)								August 1956
Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	295	(6.60)					2.3	2.60
01	295	(6.00)					2.4	(2.55)
02	295	5.70					2.4	2.45
03	300	5.00					2.7	2.50
04	290	4.90	290		120		2.6	2.65
05	(275)	5.20	260		105	1.90	3.1	2.80
06	(395)	5.80	250		105	2.35	3.3	2.85
07	(375)	6.30	235	4.45	100	2.80	3.8	2.85
08	380	6.80	240	4.60	100	3.00	4.4	2.80
09	330	6.95	235	4.90	100	3.30	4.4	2.85
10	355	7.40	230	5.20	100	3.40	4.6	2.85
11	350	7.30	225	5.20	100	3.50	4.6	2.85
12	300	7.20	220	5.30	100	3.60	4.2	2.75
13	385	7.40	225	5.25	100	3.60	4.4	2.75
14	440	7.20	220	5.30	100	3.50	3.9	2.75
15	370	7.20	230	5.15	100	3.40	3.8	2.75
16	---	7.25	240	---	100	3.30		2.80
17	---	7.40	240	---	100	3.00	3.8	2.85
18	---	7.55	250	---	100	2.60	3.8	2.85
19	260	7.50	250	---	110	2.20	3.5	2.90
20	265	7.30	260	---	115	---	2.6	2.90
21	260	7.00			---	---	2.4	2.85
22	260	6.95					<1.6	2.80
23	270	6.60					<1.6	2.55

Time: 15.0°E.
Sweep: 0.7 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 3

Graz, Austria (47.1°N, 15.5°E)								August 1956
Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	310	6.6						
01	330	6.2						
02	330	5.8						
03	320	5.5						
04	330	5.5						
05	280	5.9						
06	240	6.7	(235)	(3.8)		(3.5)		
07	250	7.6	230	5.1		(3.7)	4.3	
08	300	8.0	220	5.1		3.7	4.8	
09	300	7.9	220	5.2		3.7	4.4	
10	300	8.4	205	5.3		3.9	4.3	
11	320	8.3	210	5.3		3.9	4.4	
12	310	8.5	210	5.4		3.9	4.4	
13	330	8.4	230	5.4		3.9	4.2	
14	330	8.2	220	5.3		3.9	3.9	
15	320	8.2	220	5.4		3.8		
16	300	8.0	230	5.3			3.8	
17	275	8.3	230	4.9			3.5	
18	250	8.1					4.0	
19	250	8.6					4.4	
20	250	8.3					3.8	
21	260	7.2					3.5	
22	280	6.8					4.1	
23	300	6.8					3.4	

Time: 15.0°E.
Sweep: 2.5 Mc to 12.0 Mc in 2 minutes.

Table 4

Ft. Monmouth, New Jersey (40.3°N, 74.1°W)								August 1956
Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	280	6.2					(3.1)	2.65
01	280	5.8					(2.6)	2.65
02	280	5.6					(3.6)	2.65
03	280	5.1					3.3	2.70
04	280	4.5					(3.6)	2.70
05	280	4.6						2.90
06	260	5.7	240		115	2.4	2.5	3.00
07	280	6.4	235	4.5	109	2.9	3.6	3.00
08	310	7.0	220	4.9	109	3.4	4.2	2.95
09	380	7.3	210	5.2	109	3.6	4.6	2.85
10	360	7.4	205	5.3	109	3.8	3.9	2.85
11	370	7.7	210	5.4	109	4.0		2.80
12	370	7.9	205	5.4	106	4.0		2.75
13	370	8.0	215	5.5	109	4.0		2.70
14	370	8.0	220	5.5	109	3.8	3.8	2.75
15	370	7.8	220	5.2	109	3.7	3.8	2.70
16	350	8.0	220	4.9	109	3.4	3.4	2.75
17	300	7.9	235	(4.5)	111	3.0	3.4	2.80
18	270	8.0	250	---	117	2.3	2.8	2.85
19	250	8.0					4.0	2.85
20	250	7.7					4.9	2.80
21	260	7.2					4.0	2.75
22	270	6.9					2.9	2.70
23	280	6.5					(3.4)	2.70

Time: 75.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 5

White Sands, New Mexico (32.3°N, 106.5°W)								August 1956
Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	<300	5.8					3.2	2.65
01	300	5.5					2.6	2.65
02	(290)	5.4					2.7	2.70
03	280	5.2					2.8	2.70
04	<280	5.0					3.4	2.70
05	280	4.7					3.2	2.70
06	270	5.6	260	---	119	(2.0)	3.0	2.90
07	320	6.9	235	4.4	109	(2.9)	4.5	2.85
08	300	8.6	220	4.8	109	(3.3)	4.5	2.80
09	330	8.6	210	5.2	107	(3.7)	4.7	2.70
10	350	9.0	205	5.4	107	(3.9)	4.6	2.65
11	360	9.4	210	5.6	107	(4.0)	4.3	2.65
12	370	9.7	215	5.7	109	(4.0)		2.65
13	360	10.0	215	5.5	109	(4.0)	4.0	2.65
14	350	9.7	<220	5.4	109	(4.0)	4.1	2.70
15	340	9.3	220	(5.3)	109	(3.8)	3.9	2.75
16	330	9.0	220	(5.0)	109	(3.4)	3.6	2.80
17	290	8.7	230	---	109	(3.0)	3.8	2.85
18	250	8.3	250	---	113	(2.5)	3.1	2.95
19	240	7.9					3.5	2.95
20	<240	7.0					3.0	2.80
21	<250	6.4					3.8	2.75
22	<270	6.1					3.8	2.70
23	(280)	5.9					4.0	2.65

Time: 105.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 6

Okinawa I. (26.3°N, 127.6°E)								August 1956
Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	280	11.2					3.2	2.75
01	270	10.8					3.0	2.80
02	270	9.5					2.7	2.85
03	250	8.6					3.6	2.90
04	260	7.9					3.1	2.85
05	240	7.0					3.1	2.80
06	260	7.1			---	---	3.1	2.90
07	240	8.8	235	---	115	(2.6)	4.2	3.20
08	240	9.1	220	---	(111)	(3.2)	5.6	3.15
09	(270)	9.2	220	---	(111)	(3.5)	5.3	2.95
10	(360)	9.3	210	---	109	(3.8)	5.7	2.70
11	(390)	10.8	210	---	109	(3.9)	6.4	2.60
12	380	11.8	210	---	111	(4.0)	5.8	2.60
13	370	12.7	215	---	111	(4.1)	6.8	2.65
14	370	13.3	220	(5.6)	111	(4.0)	6.2	2.65
15	350	14.0	220	---	111	(3.9)	5.7	2.70
16	330	14.4	230	---	111	3.6	5.2	2.75
17	310	14.6	235	---	111	(3.2)	5.3	2.80
18	290	14.5	250	---	111	2.6	5.2	2.80
19	260	14.2					4.7	2.85
20	260	13.5					4.7	2.70
21	270	13.6					4.2	(2.65)
22	280	(13.2)					3.5	(2.60)
23	280	11.7					3.5	2.70

Time: 135.0°E.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 7

Formosa, China (25.0°N, 121.5°E)								August 1956	
Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2	
00	200	11.9					2.8	2.8	
01	260	9.8					2.8	2.9	
02	260	9.1					2.8	2.9	
03	260	8.8					2.6	2.8	
04	260	8.8					2.8	2.9	
05	260	7.9					2.8	3.0	
06	240	8.9					3.1	3.2	
07	240	9.1					4.0	3.2	
08	(260)	9.2	230	---	120	3.4	4.7	2.9	
09	(280)	9.8	220	---	110	3.6	5.3	2.7	
10	360	10.8	220	6.0	---	---	4.2	2.5	
11	370	11.9	---	5.9	---	---	5.0	2.5	
12	390	13.6	---	6.0	---	---	5.6	2.5	
13	380	14.7	---	(5.8)	---	---	5.4	2.55	
14	380	15.3	---	5.6	---	---	5.5	2.6	
15	360	>16.4	240	5.6	120	3.8	4.3	2.7	
16	320	>16.4	240	---	---	---	4.9	(2.8)	
17	280	>16.4	250	---	---	---	4.2	(2.85)	
18	280	>16.0					3.6	(2.9)	
19	280	>14.5					3.8	(2.9)	
20	280	>14.8					3.2	2.7	
21	280	>14.4					3.0	2.7	
22	280	>14.5					2.7	(2.8)	
23	280	>13.1					2.7	(2.7)	

Time: 120.0°E.

Sweep: 1.1 Mc to 19.5 Mc in 15 minutes, manual operation.

Table 8

Puerto Rico, W. I. (18.5°N, 67.2°W)								August 1956	
Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2	
00	290	8.5					3.6	2.75	
01	270	8.5					3.8	2.80	
02	260	7.9					3.4	2.90	
03	260	7.4					3.0	2.85	
04	260	7.0					2.9	2.85	
05	250	6.8					2.6	2.90	
06	260	6.5					2.4	3.00	
07	240	7.8	240	---	(119)	2.4	3.0	3.20	
08	(250)	8.4	225	---	115	3.0	3.7	3.05	
09	300	9.2	220	5.2	109	3.5	4.0	2.85	
10	350	9.9	215	5.4	113	3.8		2.70	
11	350	11.0	220	5.6	115	4.0		2.70	
12	360	11.5	220	5.8	115	(4.1)		2.70	
13	350	12.0	220	5.8	110	4.1		2.70	
14	350	11.9	230	5.7	109	4.0		2.70	
15	340	11.9	225	5.5	109	3.9	5.0	2.75	
16	320	11.5	230	5.3	109	3.6	4.8	2.75	
17	300	11.1	240	---	111	3.2	4.4	2.80	
18	270	10.4	250	---	(117)	(2.5)	3.5	2.80	
19	250	10.0					3.2	2.85	
20	250	9.4					2.8	2.75	
21	270	9.2					3.0	2.70	
22	290	9.0					(3.1)	2.70	
23	290	8.8					(3.1)	2.70	

Time: 60.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 9

Panama Canal Zone (9.4°N, 79.9°W)								August 1956	
Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2	
00	270	9.0					(3.0)	2.85	
01	250	8.5						2.95	
02	240	7.6					3.5	2.90	
03	240	6.8					2.5	3.00	
04	250	6.2					2.3	2.90	
05	250	5.4					2.3	3.00	
06	260	5.3					2.3	3.00	
07	240	7.2	230	---	115	2.5	2.8	3.10	
08	240	7.9	220	---	110	3.2		3.00	
09	---	8.8	215	---	107	3.7		2.65	
10	350	10.3	215	---	108	3.9		2.45	
11	380	11.3	210	5.6	109	4.1		2.50	
12	390	12.0	215	6.0	109	4.2		2.55	
13	380	12.5	220	5.8	109	4.2		2.65	
14	370	13.3	220	5.6	109	4.1	4.8	2.70	
15	350	12.7	230	(5.4)	109	3.9	3.9	2.70	
16	340	12.0	225	---	109	3.6	4.1	2.70	
17	320	11.6	230	---	109	3.0	3.9	2.75	
18	270	11.5	250	---	121	2.4	3.2	2.80	
19	250	10.5					3.2	2.80	
20	260	9.2					2.6	2.70	
21	260	9.4					2.6	2.70	
22	280	9.1					(2.8)	2.75	
23	280	9.0					(2.1)	2.80	

Time: 75.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 10

Schwarzenburg, Switzerland (46.8°N, 7.3°E)								July 1956	
Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2	
00	300	6.90						3.0	
01	300	7.10						3.0	
02	300	6.85						3.0	
03	290	6.50						3.1	
04	300	5.80						3.1	
05	270	5.80						3.1	
06	235	5.90	---	---	100	2.05		3.3	
07	280	7.00	200	5.00	100	2.90		3.3	
08	300	7.50	200	5.15	100	3.20		3.2	
09	300	7.60	200	5.40	100	3.40	5.0	3.3	
10	350	7.60	200	5.60	100	3.60		3.1	
11	330	7.50	200	5.50	100	3.70		3.1	
12	350	8.00	200	5.50	100	3.80		3.1	
13	300	7.80	200	5.60	100	3.80		3.1	
14	345	7.75	200	5.60	100	3.70		3.05	
15	340	7.75	200	5.40	100	3.60		3.15	
16	300	7.50	200	5.30	100	3.60		3.15	
17	300	7.50	200	5.10	100	3.20		3.2	
18	275	7.55	200	4.60	100	3.00		3.3	
19	240	7.80			100	2.45		3.4	
20	245	8.20			---	---		3.4	
21	250	7.95						3.4	
22	265	7.60						3.2	
23	290	7.40						3.1	

Time: 15.0°E.

Sweep: 1.0 Mc to 25.0 Mc in 30 seconds.

Table 11

Formosa, China (25.0°N, 121.5°E)								July 1956	
Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2	
00	310	(9.5)					3.9	(2.7)	
01	280	9.0					3.4	2.8	
02	260	(8.4)					3.0	(2.9)	
03	260	(7.7)					2.8	(2.85)	
04	270	7.2					3.0	2.9	
05	260	6.8					2.9	2.9	
06	240	(7.3)					3.2	(3.1)	
07	240	7.5	240	---	---	---	4.3	3.1	
08	300	7.9	220	---	110	3.4	6.0	2.9	
09	370	8.5	220	5.6	110	3.6	6.4	2.7	
10	400	9.2	220	5.8	100	3.9	6.0	2.5	
11	400	10.4	---	5.6	---	---	5.4	2.5	
12	400	11.4	---	5.7	---	---	2.5		
13	380	12.2	---	5.7	---	---	6.4	2.6	
14	370	12.9	---	5.7	---	---	6.2	2.7	
15	350	13.5	240	5.4	120	---	5.0	2.8	
16	330	14.2	240	5.0	---	---	5.1	2.8	
17	(320)	14.1	240	4.7	---	---	3.9	(2.9)	
18	(280)	(12.5)	240	---	---	---	(5.0)	(2.9)	
19	280	12.1					3.6	2.9	
20	280	11.7					3.2	2.7	
21	300	11.0					2.8	2.7	
22	320	10.3					4.0	2.6	
23	320	(9.6)					2.8	(2.7)	

Time: 120.0°E.

Sweep: 1.1 Mc to 19.5 Mc in 15 minutes, manual operation.

Table 12

Baguio, P. I. (16.4°N, 120.6°E)								July 1956	
Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2	
00	260	9.4						2.90	
01	250	9.0						3.00	
02	230	8.0						3.00	
03	220	7.5						3.05	
04	210	7.0						3.30	
05	210	6.0						2.0	
06	240	6.7						4.2	
07	220	7.8						3.10	
08	210	8.4	210	---	106	(2.8)	6.8	2.80	
09	---	9.1	200	---	107	(3.6)	7.0	2.50	
10	---	9.9	200	---	105	3.9	7.3	2.45	
11	360	10.5	200	---	103	4.0	5.9	2.35	
12	(380)	10.6	200	---	102	4.0	5.4	2.25	
13	(390)	11.2	200	---	101	(4.0)	5.6	2.30	
14	390	11.2	200	---	101	(4.0)	5.8	2.35	
15	(390)	11.2	200	---	103	(3.7)	5.2	2.35	
16	(340)	11.4	210	---	103	3.3	5.4	2.50	
17	240	11.2	225	---	105	(2.9)	4.4	2.55	
18	250	11.0			115	2.0	4.0	2.55	
19	300	10.7					3.3	2.50	
20	320	10.2					2.4	2.55	
21	320	9.8					2.2	2.50	
22	330	9.5					2.3	2.60	
23	300	9.6					2.1	2.70	

Time: 120.0°E.

Sweep: 1.0 Mc to 25

Table 13

Talara, Peru (4,6°S, 81,3°W) July 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	230	8.3					(2,2)	2.95
01	240	8.0					(2,8)	3.00
02	240	7.5						3.20
03	230	6.6						3.30
04	230	5.2						3.20
05	250	4.1					2.1	3.10
06	270	3.5					3.1	2.90
07	260	5.6			131	2.1	3.3	3.00
08	240	7.4	240	---	115	2.9	4.3	2.80
09	(230)	8.2	220	---	111	3.3	4.2	2.50
10	---	8.6	215	---	110	3.6	3.9	2.35
11	(400)	8.9	205	5.7	109	3.8	5.0	2.20
12	(420)	9.2	200	5.4	109	3.9	4.8	2.25
13	(440)	9.4	200	5.4	109	3.9		2.15
14	(420)	9.4	200	5.4	109	3.8	4.8	2.15
15	(440)	9.5	200	5.2	109	3.6	4.5	2.15
16	---	9.5	210	---	109	3.3	4.6	2.15
17	230	9.7	235	---	115	2.9	3.6	2.25
18	270	9.5			131	(2,1)	3.0	2.30
19	320	9.1					3.2	2.25
20	340	9.0					2.0	2.35
21	310	9.0					4.4	2.45
22	270	9.4					3.4	2.80
23	230	8.9					2.2	3.05

Time: 75.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 14

Huancaayo, Peru (12,0°S, 75,3°W) July 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	220	7.0						3.15
01	220	6.5						3.15
02	220	6.2						3.25
03	230	5.3						3.30
04	240	4.2						3.20
05	250	3.5						3.20
06	280	3.6						2.90
07	250	6.8			119	2.2	6.9	3.05
08	---	8.8	225	---	109	---	9.3	2.85
09	---	9.3	210	---	---	---	10.3	2.60
10	300	9.1	200	4.9	---	---	10.8	2.50
11	(300)	9.0	200	5.0	---	---	11.0	2.40
12	(320)	8.7	200	5.1	---	---	10.9	2.40
13	---	8.9	200	---	---	---	10.9	2.35
14	---	8.7	200	---	---	---	10.9	2.35
15	---	8.7	200	---	---	---	10.5	2.30
16	---	8.8	220	---	---	---	9.0	2.35
17	250	8.8			---	---	7.2	2.40
18	290	8.5						2.40
19	340	7.9						2.40
20	300	7.8						2.50
21	260	7.6						2.65
22	230	7.5						2.95
23	220	7.1						3.00

Time: 75.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 15

Fairbanks, Alaska (64,9°N, 147,8°W) June 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00		(4,7)					4.3	(2,75)
01		(5,0)			---	---	4.8	(2,80)
02		(5,5)			---	---	5.5	(2,70)
03		(5,5)			---	---	4.9	(2,70)
04		(5,6)		(3,7)	101	---	4.8	(2,65)
05		(5,5)		(4,0)	109	---	4.5	(2,60)
06		(5,5)		(4,2)	102	(2,9)	4.5	2.60
07		(5,3)		4.3	101	(3,1)	4.2	(2,60)
08		(5,4)		(4,4)	101	(3,2)	3.5	2.55
09		(5,5)		(4,5)	101	(3,4)		(2,50)
10		5.6		(4,6)	103	(3,3)		2.50
11		(5,6)		(4,7)	101	(3,4)		2.55
12		5.8		4.7	103	(3,4)		2.60
13		(5,7)		(4,8)	101	---		2.55
14		5.9		(4,8)	107	(3,4)		2.60
15		5.8		(4,7)	105	(3,2)		2.60
16		5.8		(4,6)	109	(3,1)		2.70
17		(5,9)		(4,5)	111	(3,0)	3.3	(2,80)
18		5.8		(4,1)	111	(2,7)	3.0	2.85
19		5.8		(3,8)	111	(2,4)	4.2	2.90
20		5.4			121	---	4.0	2.95
21		(5,2)			131	(2,0)	4.3	(3,00)
22		(5,2)			131	---	3.4	(3,00)
23		(5,0)					4.4	(2,90)

Time: 150.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 16

San Francisco, California (37,4°N, 122,2°W) June 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	<300	5.4					3.8	(2,55)
01	<320	5.3					3.2	(2,55)
02	(280)	(5,1)					3.7	(2,60)
03	<300	(4,9)					3.3	(2,60)
04	(310)	4.7					3.6	(2,60)
05	300	4.9	280	(2,9)	---	---	3.8	(2,65)
06	340	5.5	245	(3,6)	(109)	(2,4)	3.8	(2,75)
07	420	6.0	230	(4,3)	(105)	(2,9)	4.4	(2,55)
08	440	6.6	<220	(4,6)	(105)	(3,2)	4.5	2.50
09	420	6.7	210	(4,8)	(105)	(3,4)	5.0	(2,50)
10	420	7.0	210	(5,0)	(105)	(3,6)	4.8	2.55
11	410	7.3	<210	(5,0)	(105)	(3,6)	4.5	2.50
12	410	7.0	205	(5,0)	(105)	(3,6)	4.7	2.55
13	420	7.2	210	(5,0)	(105)	(3,6)	4.2	2.55
14	400	7.0	215	(5,0)	(105)	(3,6)	4.6	2.55
15	410	7.1	220	(5,0)	(105)	(3,5)	4.0	2.60
16	380	7.0	225	(4,8)	(105)	(3,3)	4.0	2.70
17	360	7.0	<240	(4,5)	(109)	(3,0)	3.9	2.80
18	<320	6.9	240	(4,1)	(111)	(2,6)	4.2	2.85
19	270	7.0	260	---	---	---	3.6	2.95
20	240	6.8					4.3	(2,90)
21	<250	6.4					4.0	(2,80)
22	260	(5,7)					4.8	(2,70)
23	<290	(5,5)					3.8	(2,60)

Time: 120.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 17

Baquiao, P. I. (16,4°N, 120,6°E) June 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	280	9.4						2.90
01	250	9.5					1.7	3.05
02	240	8.4						3.10
03	240	7.2						3.00
04	240	6.2						2.90
05	230	5.4					1.7	3.00
06	240	7.0			---	---	4.4	3.10
07	230	8.4			---	---	7.4	3.00
08	220	9.0	215	---	---	---	8.6	2.75
09	---	9.4	210	---	---	---	8.3	2.45
10	---	10.0	200	---	111	---	8.0	2.30
11	(360)	10.6	200	---	---	(4,0)	7.4	2.30
12	(390)	11.2	200	---	109	4.0	5.8	2.35
13	390	11.5	200	(5,5)	109	(4,0)	6.5	2.30
14	380	11.6	200	---	109	(3,8)	5.6	2.35
15	(390)	11.5	205	---	---	(3,5)	5.0	2.35
16	(340)	11.5	210	---	---	(3,2)	8.0	2.45
17	240	11.7	---	---	111	2.7	6.1	2.60
18	260	11.6			---	---	4.8	2.55
19	290	10.9					4.5	2.55
20	340	10.3					3.4	2.45
21	350	9.8					2.0	2.50
22	340	9.7					2.1	2.60
23	310	9.9					2.0	2.75

Time: 120.0°E.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 18

Talara, Peru (4,6°S, 81,3°W) June 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	230	8.2					(3,0)	3.00
01	240	7.8						3.00
02	240	7.6					(2,5)	3.10
03	240	7.2						3.25
04	230	6.2						3.20
05	250	4.9					2.4	3.10
06	260	4.6					2.0	2.90
07	260	6.2			129		3.2	3.00
08	240	7.6	235	---	115	2.9	3.1	2.85
09	---	8.5	225	---	113	3.3	3.9	2.55
10	---	9.0	215	---	111	3.5		2.35
11	---	9.3	210	---	111	3.7	5.1	2.30
12	---	9.8	210	---	111	3.8	5.0	2.25
13	---	9.9	210	---	111	3.8	5.2	2.25
14	(410)	10.0	210	---	111	3.7	5.2	2.20
15	---	10.1	210	---	111	3.5	5.0	2.20
16	---	10.5	220	---	113	3.2	4.0	2.25
17	240	10.0			119	2.7	4.8	2.20
18	280	9.7					3.4	2.25
19	330	9.2					4.2	2.20
20	350	9.2					3.0	2.30
21	330	9.4					3.1	2.45
22	280	9.6					3.3	2.80
23	230	9.0					3.1	3.00

Time: 75.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 19

Watheroo, W. Australia (30.3°S, 115.9°E)								June 1956
Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	250	3.8						3.0
01	260	3.9						2.9
02	250	3.9						3.0
03	250	3.8						3.0
04	250	4.0						3.1
05	220	3.7						3.2
06	220	3.5						3.15
07	240	4.4				1.5		3.3
08	220	7.0				2.2		3.6
09	240	8.6	240	4.0		2.8	2.9	3.5
10	250	9.2	230	4.2		3.2		3.5
11	250	10.0	230	4.7		3.3	3.7	3.4
12	250	9.5	220	4.8		3.5	3.7	3.3
13	250	9.2	220	4.7		3.4	3.8	3.35
14	260	10.0	220	5.0		3.3	3.8	3.2
15	250	9.6	230	4.6		3.1	4.1	3.3
16	250	9.4	230	---		2.6	3.1	3.3
17	230	8.2				2.0	2.6	3.5
18	220	7.0					3.0	3.4
19	220	6.0					1.7	3.3
20	220	4.4					1.8	3.3
21	240	3.8						3.15
22	250	3.8						3.0
23	260	3.7						2.9

Time: 120.0°E.

Sweep: 1.0 Mc to 16.0 Mc in 1 minute 45 seconds.

Table 20

Thule, Greenland (77.0°N, 69.0°W)								May 1956
Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00		5.6		(3.2)	119	2.0		2.80
01		5.6		(3.2)	119	(2.0)		2.80
02		5.7		(3.3)	119	2.1		(2.75)
03		5.2		3.6	117	2.2		(2.65)
04		5.4		3.7	115	2.3		2.70
05		5.4		4.0	111	2.6		(2.75)
06		5.4		4.1	109	2.7		2.90
07		5.8		4.2	109	2.9		(2.65)
08		5.4		4.3	109	3.0		(2.50)
09		5.5		4.4	107	3.0	4.0	(2.60)
10		5.7		4.4	107	3.1		2.60
11		5.7		4.4	107	3.2		2.45
12		(5.6)		4.5	107	3.1		(2.55)
13		5.4		4.4	107	3.1		2.55
14		5.4		4.4	107	3.0		(2.55)
15		5.5		4.3	109	2.9		2.50
16		5.8		4.2	107	2.8		2.65
17		5.8		4.2	109	2.6		(2.70)
18		5.8		(4.0)	109	2.6		2.70
19		5.6		(3.7)	109	2.4		(2.75)
20		6.0		(3.4)	111	2.2		2.70
21		5.8		---	(119)	2.1		2.75
22		5.6		---	119	2.0		2.80
23		5.6		---	121	(2.0)		(2.80)

Time: 75.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 21

Point Barrow, Alaska (71.3°N, 156.8°W)								May 1956
Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00		(5.2)	---	---	---	---	4.3	(2.70)
01		(5.0)	---	---	---	---	4.3	(2.70)
02		(5.0)	---	---	---	---	4.4	2.65
03		(5.0)	---	---	---	---	3.2	(2.75)
04		(5.0)	---	---	---	---	3.3	(2.45)
05		(4.8)	(3.6)	106	2.4	2.8		6
06		(4.8)	(3.9)	101	2.6			(2.40)
07		(5.2)	(4.0)	101	2.8			(2.35)
08		5.1	(4.2)	101	3.0	3.0		6
09		(5.4)	(4.5)	101	3.2			2.45
10		6.0	(4.5)	101	(3.2)			2.45
11		5.4	(4.5)	101	(3.3)			2.40
12		5.5	(4.6)	101	(3.4)			2.50
13		(5.8)	(4.7)	101	(3.3)			2.50
14		5.8	(4.7)	101	---			2.50
15		6.0	(4.6)	101	(3.2)			2.60
16		5.9	(4.5)	101	3.0			2.50
17		5.8	(4.3)	101	(2.8)			2.60
18		5.9	(3.9)	101	(2.7)			2.60
19		5.6	(3.7)	101	2.4			2.70
20		5.6	---	103	2.2	3.2		2.75
21		(5.6)	---	111	2.1	4.2		(2.80)
22		(5.2)	---	---	---	4.2		(2.90)
23		(5.3)	---	---	---	6.2		2.80

Time: 150.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 22

De Bilt, Holland (52.1°N, 5.2°E)								May 1956
Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	6.4						2.3
01	300	5.8						2.3
02	300	5.6						2.3
03	300	5.1						2.5
04	290	5.4	290	---	---	E		2.6
05	240	5.8	250	---	115	2.2		2.7
06	380	6.0	235	4.2	105	2.7	3.0	2.6
07	395	6.8	225	4.6	100	3.0	3.3	2.6
08	350	7.0	225	4.8	100	3.3	3.6	2.7
09	345	7.2	215	5.0	100	3.4	3.7	2.7
10	350	7.6	210	5.1	100	3.6		2.6
11	375	7.6	210	5.2	100	3.6	3.7	2.6
12	360	7.9	200	5.2	100	3.6	3.7	2.6
13	375	7.8	225	5.2	100	3.6		2.6
14	340	7.8	225	5.2	100	3.6		2.6
15	340	7.8	225	5.1	100	3.4		2.65
16	350	7.6	225	4.7	100	3.2		2.7
17	(310)	7.8	245	4.2	105	2.8	3.2	2.9
18	265	8.0	250	---	115	2.4	3.1	2.85
19	260	7.8	---	---	---	1.8	2.2	2.9
20	250	7.5						2.9
21	250	7.3						2.65
22	275	7.0						2.5
23	290	6.6						2.4

Time: 0.0°.

Sweep: 0.8 Mc to 20.0 Mc in 20 seconds.

Table 23

Wakkanai, Japan (45.4°N, 141.7°E)								May 1956
Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	290	7.1					2.2	
01	290	6.9					2.6	
02	280	6.6					>2.8	
03	290	6.4					2.3	
04	290	6.5					2.4	
05	320	7.0					2.6	
06	300	8.2					3.6	
07	300	8.2					4.7	
08	330	7.9					5.1	
09	340	7.7					5.5	
10	350	8.0					5.5	
11	360	7.8					5.0	
12	360	8.0						
13	350	8.0						
14	350	8.2						
15	320	8.2						
16	300	8.0						
17	290	8.0					4.1	
18	280	8.0					4.2	
19	260	8.2					4.2	
20	270	8.3					3.5	
21	270	8.1					3.6	
22	290	7.5					3.4	
23	280	7.3					2.3	

Time: 135.0°E.

Sweep: 1.0 Mc to 22.0 Mc in 1 minute.

Table 24

Akita, Japan (39.7°N, 140.1°E)								May 1956
Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	340	7.7					3.5	
01	310	7.6					3.0	
02	300	7.4					2.5	
03	300	6.8					2.9	
04	330	6.8					2.5	
05	290	7.5					3.1	
06	290	8.7					4.2	
07	300	9.2					5.0	
08	300	8.9					6.0	
09	340	8.8					5.9	
10	390	9.0					5.9	
11	380	9.2					5.3	
12	380	9.5					4.8	
13	360	10.0					5.6	
14	360	9.8					4.8	
15	340	9.6					4.2	
16	340	9.2					4.9	
17	310	9.0					5.6	
18	300	9.0					5.7	
19	290	9.0					4.6	
20	300	8.6					4.5	
21	320	8.0					4.3	
22	330	7.8					4.2	
23	340	7.8					4.5	

Time: 135.0°E.

Sweep: 0.85 Mc to 22.0 Mc in 2 minutes.

Table 25

San Francisco, California (37.4°N, 122.2°W)

May 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	<310	5.4					3.2	2.55
01	<300	5.3					2.7	2.60
02	<300	5.1					2.6	2.60
03	<300	4.8					2.9	2.60
04	310	4.4					3.0	2.55
05	325	4.6	315	(2.7)	---	---	3.2	2.70
06	355	5.4	250	(3.7)	(111)	(2.2)	3.5	2.80
07	410	5.9	230	4.2	(105)	(2.8)	3.5	2.60
08	440	6.4	215	(4.6)	(105)	(3.1)	4.2	2.50
09	495	6.6	210	(4.8)	(105)	(3.5)	4.0	2.45
10	425	7.2	200	(5.0)	(104)	(3.6)	4.5	2.55
11	400	7.9	200	(5.0)	(105)	---	4.1	2.55
12	375	8.4	210	(5.3)	(105)	---	4.1	2.60
13	380	8.3	210	(5.2)	(105)	(3.8)	3.8	2.60
14	355	8.4	215	(5.1)	(105)	(3.8)	3.9	2.60
15	340	8.4	220	(5.0)	(105)	(3.6)	3.3	2.70
16	345	8.0	230	(4.7)	(105)	(3.3)	3.6	2.75
17	310	8.5	235	(4.5)	(107)	(3.0)	3.7	2.80
18	275	8.3	245	---	(111)	(2.3)	4.1	2.95
19	250	7.4	---	---			3.6	3.00
20	240	7.0					3.5	2.90
21	240	6.3					3.1	2.75
22	265	5.8					3.5	2.65
23	290	5.5					3.3	2.50

Time: 120.0°W,
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 27

Yamagawa, Japan (31.2°N, 130.6°E)

May 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	9.4					4.2	
01	290	9.4					4.4	
02	290	8.7					4.3	
03	280	8.2					3.5	
04	290	7.2					3.4	
05	280	7.2					2.4	
06	250	8.1					3.2	
07	240	9.3					3.6	
08	250	9.0					5.8	
09	250	9.5					6.5	
10	270	10.0					6.5	
11	300	11.0					6.7	
12	290	11.8					6.5	
13	290	12.2					7.2	
14	290	12.8					5.9	
15	270	12.3					5.9	
16	260	12.2					5.0	
17	260	12.4					5.7	
18	270	12.0					4.9	
19	260	10.3					4.0	
20	250	9.5					3.8	
21	300	9.5					5.4	
22	310	9.6					5.0	
23	310	9.3					3.5	

Time: 135.0°E,
Sweep: 1.0 Mc to 22.0 Mc in 1 minute.

Table 29

Johannesburg, Union of S. Africa (26.2°S, 28.1°E)

May 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	<260	3.1						2.85
01	<270	3.3						2.8
02	<260	3.1						2.9
03	<260	3.1						2.9
04	240	3.0						2.9
05	<250	3.0						2.9
06	<250	3.1						3.0
07	230	7.0			140	2.1		3.3
08	230	9.7	230	---	110	2.7		3.3
09	240	10.9	220	4.3	110	3.2		3.2
10	250	12.0	220	4.8	110	3.4		3.1
11	250	12.2	210	4.8	110	3.6		3.1
12	250	12.0	210	4.9	110	3.7		3.0
13	250	12.1	210	4.9	110	3.7		3.0
14	250	12.1	220	4.6	110	3.5		2.9
15	250	12.1	220	4.2	110	3.2	3.6	2.9
16	240	11.9	230	---	110	2.9	3.4	2.9
17	230	11.6	---	---	140	2.2	2.9	3.0
18	210	10.1					2.6	3.1
19	220	7.2					2.0	3.1
20	240	5.7					2.2	3.1
21	230	4.7						3.2
22	<240	3.7						3.1
23	250	3.1						2.9

Time: 30.0°E,
Sweep: 1.0 Mc to 15.0 Mc in 7 seconds.

Table 26

Tokyo, Japan (35.7°N, 139.5°E)

May 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	320	8.4					4.1	2.7
01	300	8.1					3.8	2.7
02	280	7.9					3.7	2.7
03	300	7.2					3.8	2.7
04	300	6.8					3.3	2.6
05	280	7.5	---	---	140	1.8	3.3	2.7
06	270	8.7	250	4.4	120	2.6	3.9	2.8
07	280	9.0	240	4.7	110	3.1	5.7	2.9
08	280	8.8	240	---	110	3.5	6.0	2.8
09	320	8.9	230	5.5	110	3.6	6.4	2.7
10	330	9.6	230	5.8	110	3.7	6.4	2.7
11	360	9.8	240	5.6	110	3.8	6.4	2.7
12	350	10.5	240	5.7	110	3.8	5.8	2.7
13	340	10.8	230	5.6	110	3.8	5.7	2.8
14	330	10.6	240	5.6	110	3.7	5.5	2.8
15	320	10.6	250	5.2	110	3.5	5.6	2.8
16	300	10.0	250	5.0	110	3.3	5.6	2.8
17	290	10.1	270	---	110	2.8	6.0	2.8
18	280	9.8	---	---	120	---	6.1	2.9
19	270	9.6					5.7	2.9
20	280	8.5					4.5	2.7
21	300	8.2					4.2	2.6
22	320	8.6					4.6	2.6
23	310	8.3					4.4	2.6

Time: 135.0°E,
Sweep: 1.0 Mc to 17.2 Mc in 2 minutes.

Table 28

Huancayo, Peru (12.0°S, 75.3°W)

May 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	230	8.1						3.10
01	220	7.8						3.10
02	220	7.2						3.15
03	230	6.0						3.15
04	240	5.0					3.6	3.20
05	250	4.5						3.15
06	270	4.9						2.95
07	250	8.6			115	2.4	7.0	3.05
08	230	10.6	230	---	109	3.0	10.6	2.90
09	---	11.7	220	---	105	3.4	12.2	2.65
10	---	11.7	210	---	103	---	12.5	2.45
11	(300)	11.5	205	---	105	---	12.7	2.40
12	(280)	11.0	200	5.1	105	---	12.6	2.40
13	---	11.0	200	4.9	106	---	12.7	2.30
14	---	10.9	200	---	104	---	12.6	2.30
15	220	10.9	210	---	107	---	12.3	2.30
16	240	10.7	235	---	107	---	11.3	2.30
17	260	10.4			113	---	9.2	2.35
18	300	9.8						2.35
19	360	9.2						2.30
20	310	9.2						2.40
21	280	8.8						2.60
22	250	8.2						2.75
23	240	8.3						2.95

Time: 75.0°W,
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 30

Watheroo, W. Australia (30.3°S, 115.9°E)

May 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	260	4.2					1.0	2.9
01	260	4.2					1.4	2.9
02	250	4.0					1.7	2.9
03	250	4.1					1.1	2.9
04	250	4.0						3.1
05	250	3.7						2.9
06	250	3.4						3.0
07	240	5.8					1.8	3.2
08	230	8.2	---	---			2.6	3.4
09	240	10.0	220	4.3		3.0	3.8	3.3
10	250	10.8	220	4.9		3.4	3.8	3.2
11	250	11.2	220	5.0		3.5	3.8	3.2
12	250	11.0	220	4.8		3.6	3.9	3.1
13	260	11.5	220	4.8		3.6	4.1	3.05
14	260	11.5	230	4.6		3.5	3.8	3.1
15	250	11.0	230	4.4		3.2	3.7	3.1
16	230	10.9	240	---		2.8	3.7	3.1
17	220	10.2	---	---		2.2	2.6	3.2
18	220	(8.2)				---	2.0	(3.1)
19	220	7.2					1.7	3.1
20	230	6.0						3.1
21	230	5.0						3.1
22	240	4.3						2.9
23	260	4.2					1.5	2.9

Time: 120.0°E,
Sweep: 1.0 Mc to 16.0 Mc in 1 minute 45 seconds.

Table 31

Capetown, Union of S. Africa (34.2°S, 18.3°E)

May 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	---	2.8						2.8
01	---	2.9					2.9	2.8
02	<280	3.0					2.9	2.8
03	<280	2.9					3.0	2.8
04	<270	3.0					2.9	2.8
05	<260	3.1					2.9	2.9
06	<260	2.9					2.9	2.9
07	240	3.3					2.0	2.9
08	230	6.9	---	---	140	2.2	2.6	3.3
09	230	9.1	230	3.4	120	2.7		3.3
10	240	10.6	230	---	120	3.1		3.2
11	250	11.8	230	4.4	120	3.4		3.1
12	250	12.2	230	---	110	3.5		3.0
13	250	12.3	220	---	110	3.5		2.9
14	250	13.0	230	---	110	3.5		2.9
15	250	12.8	230	---	120	3.3		2.9
16	250	12.7	240	---	120	3.0		2.9
17	230	12.4	---	---	130	2.4		2.95
18	220	11.0			---	---	2.6	3.1
19	210	7.9					2.8	3.1
20	230	6.1					1.9	3.2
21	<230	4.3						3.2
22	<240	3.1					2.7	3.1
23	250	2.7					2.7	2.9

Time: 30.0°E.

Sweep: 1.0 Mc to 15.0 Mc in 7 seconds.

Table 32

Buenos Aires, Argentina (34.5°S, 58.5°W)

May 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	5.9						2.9
01	300	5.4						2.8
02	300	5.2						2.85
03	300	5.3						2.95
04	230	5.1						3.2
05	250	3.8						3.0
06	300	4.0						2.9
07	230	7.4						3.2
08	220	10.0						3.3
09	230	11.1	220	---	---	---		3.1
10	250	12.1	220	---	---	---		3.1
11	250	11.6	220	---	---	---		3.1
12	240	11.6	210	---	---	---	3.5	3.0
13	280	12.5	220	---	---	---		3.0
14	260	13.1	220	---	---	---		3.1
15	240	12.9	230	---	---	---		3.1
16	220	12.6	---	---	---	---		3.1
17	210	(12.0)						(3.2)
18	210	>9.4						(3.2)
19	230	9.0						3.05
20	220	9.5						(3.1)
21	220	7.5						3.1
22	250	6.7						3.0
23	280	6.3						2.8

Time: 60.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 27 seconds.

Table 33

Resolute Bay, Canada (74.7°N, 94.9°W)

April 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00		5.9			115	1.5		2.75
01		5.6			120	1.5		(2.9)
02		5.6			110	1.6		(2.9)
03		5.5	---	---	115	1.7		(2.9)
04		5.1	---	---	110	1.8		2.9
05		5.3	---	---	110	2.1		2.85
06		5.3	3.6	105	2.3			2.9
07		5.2	3.9	105	2.6			2.95
08		5.4	4.0	105	2.8			2.65
09		5.3	4.0	100	2.9			2.8
10		5.4	4.2	100	3.0			2.7
11		5.5	4.3	100	3.0			(2.7)
12		5.9	4.3	100	3.0			(2.65)
13		5.6	4.2	100	3.1			2.5
14		6.1	4.3	100	3.0			2.7
15		6.2	4.2	100	3.0			2.65
16		6.2	4.2	105	2.8			(2.7)
17		6.2	4.0	105	2.7			2.6
18		6.0	3.9	105	2.5			2.7
19		6.0	3.4	110	2.2			2.8
20		6.2	---	110	2.0			2.8
21		5.8	---	115	1.8			2.7
22		6.0	---	110	1.6			2.8
23		5.4		115	1.6			2.85

Time: 90.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 34

Baker Lake, Canada (64.3°N, 96.0°W)

April 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00		5.6			---	E		2.7
01		5.4			---	E		2.6
02		4.6			---	E		2.5
03		4.2			---	1.1	1.1	(2.7)
04		4.2			---	1.3	1.4	2.65
05		4.2		---	110	1.9	2.0	2.8
06		4.5		3.2	110	2.2	2.2	2.65
07		5.0		3.9	110	2.5	2.5	2.7
08		5.0		4.1	110	2.9	3.0	2.4
09		5.2		4.4	110	3.2	3.2	2.55
10		5.7		4.7	105	3.5	3.6	(2.4)
11		6.2		4.9	105	3.7		2.5
12		6.5		4.8	105	3.5	3.5	2.6
13		7.2		4.8	105	3.5		2.6
14		7.2		4.8	105	3.3	3.3	2.6
15		7.2		4.6	105	3.3	3.3	2.55
16		6.8		4.5	105	3.1	3.1	2.6
17		7.0		4.2	110	2.9	2.9	2.7
18		6.8		3.8	110	2.5	2.6	2.7
19		6.5		3.3	110	2.3	2.4	2.7
20		6.1			110	1.9	2.3	2.75
21		5.8		---	---	1.3	3.0	2.7
22		5.6		---	---	E	3.0	2.6
23		5.4		---	---	E	<1.2	2.7

Time: 90.0°W.

Sweep: 1.0 Mc to 16.0 Mc in 16 seconds.

Table 35

Churchill, Canada (58.8°N, 94.2°W)

April 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00		5.4			---	---	5.0	---
01		5.3			---	---	5.0	(2.8)
02		4.6			---	---	4.5	---
03		4.4			---	1.5	4.9	---
04		4.3			130	1.9	4.0	---
05		4.0			110	2.0	4.3	---
06		4.8			115	2.8	3.7	(2.8)
07		5.5	4.3	110	3.2		3.9	2.7
08		5.9	4.6	105	3.4		4.3	2.7
09		6.1	4.8	105	3.5			2.7
10		6.5	4.8	105	3.5			2.7
11		7.0	4.9	110	3.5			2.7
12		7.1	5.0	105	3.5			2.7
13		7.8	5.0	105	3.5			2.7
14		7.8	4.9	105	3.4			2.8
15		7.7	4.8	110	3.3			2.8
16		8.0	4.5	105	3.2			2.75
17		7.8	4.3	110	3.0			2.95
18		7.0	3.8	120	2.7		<3.0	2.8
19		6.8		120	2.5		4.4	2.9
20		6.7		120	2.9		4.9	(2.9)
21		6.0		---	---		6.5	(2.75)
22		5.9		---	---		7.0	---
23		5.1		---	---		6.7	(2.9)

Time: 90.0°W.

Sweep: 1.0 Mc to 16.0 Mc in 16 seconds.

Table 36

Lindau/Harz, Germany (51.6°N, 10.1°E)

April 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	6.30						2.7
01	300	6.00						2.7
02	300	5.70					1.9	2.7
03	300	5.10					2.0	2.7
04	300	4.60				E	1.9	2.75
05	300	4.60	---	---	---	E	2.4	2.8
06	270	5.50	265	---	115	1.90	2.9	3.1
07	260	6.60	245	---	105	2.60	3.6	3.15
08	340	7.00	230	4.55	100	3.00	3.5	3.0
09	330	7.70	220	4.80	100	3.20	3.6	3.0
10	315	8.10	220	5.00	100	3.40	3.9	3.0
11	320	9.00	215	5.30	100	3.60	4.0	3.0
12	335	9.45	220	5.50	100	3.60	>4.0	3.0
13	330	9.40	220	5.30	100	3.50	4.0	3.0
14	315	9.50	220	5.00	100	3.40	3.9	3.1
15	300	9.30	230	4.90	100	3.20	3.7	3.1
16	280	9.30	230	---	100	2.90	3.4	3.1
17	270	9.30	230	---	105	2.40	3.2	3.15
18	250	9.30	250	---	---	1.60	2.9	3.1
19	245	9.10			---	E	2.4	3.1
20	245	8.40					2.0	3.0
21	240	7.65						2.8
22	260	6.90						2.7
23	280	6.60						

Time: 15.0°E.

Sweep: 1.0 Mc to 16.0 Mc in 4 minutes.

Table 37

Schwarzenburg, Switzerland (46.8°N, 7.3°E)

April 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	6.10						3.00
01	300	6.10						3.00
02	300	6.00						3.00
03	300	5.80						3.00
04	300	5.15						2.95
05	300	5.10						3.00
06	265	5.30						3.20
07	210	6.50	---	----	100	2.30		3.40
08	205	7.05	200	4.60	100	2.70		3.50
09	220	7.80	200	5.20	100	3.20		3.40
10	200	8.75	200	5.80	100	3.30		3.10
11	245	9.70	200	5.60	100	3.40		3.30
12	200	10.00	200	5.40	100	3.40		3.20
13	210	10.00	200	6.00	100	3.50		3.20
14	200	10.25	200	5.30	100	3.40		3.30
15	200	10.00	200	5.30	100	3.30		3.30
16	200	10.20	---	----	100	3.20		3.30
17	205	9.55			100	2.90		3.40
18	210	9.60			100	2.40		3.40
19	220	9.00			100	2.15		3.40
20	220	8.30						3.30
21	240	7.60						3.30
22	260	7.00						3.20
23	300	6.40						3.00

Time: 15.0°E.

Sweep: 1.0 Mc to 25.0 Mc in 30 seconds.

Table 38

Ottawa, Canada (45.4°N, 75.9°W)

April 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00		5.7					<1.6	2.7
01		5.0					<1.6	2.7
02		4.9					<1.6	2.7
03		4.4					<1.6	2.7
04		4.2					<1.6	2.65
05		4.2						2.8
06		5.3			---	120	1.7	3.0
07		6.2			4.1	110	2.8	3.1
08		7.0			4.8	110	3.2	2.9
09		7.5			5.0	105	3.5	2.9
10		8.1			5.1	105	3.7	2.8
11		8.4			5.2	105	3.8	2.8
12		8.9			5.3	105	4.0	2.7
13		9.0			5.4	105	3.9	2.75
14		9.0			5.3	105	3.8	2.7
15		9.0			5.2	105	3.6	2.8
16		9.1			4.9	110	3.3	2.8
17		9.2			4.5	110	2.9	2.8
18		9.0			---	115	2.3	2.9
19		8.8				120	1.8	2.9
20		7.9					<1.6	2.8
21		7.3					<1.6	2.8
22		6.3					<1.6	2.75
23		5.8					<1.6	2.7

Time: 75.0°W.

Sweep: 1.0 Mc to 15.0 Mc in 15 seconds.

Table 39

Wakkanai, Japan (45.4°N, 141.7°E)

April 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	290	7.3						
01	290	7.4						
02	270	7.1						
03	260	6.6						
04	280	6.3						
05	260	7.0						
06	240	8.4						
07	250	10.0						
08	250	10.6						
09	250	11.4						
10	250	11.5						
11	250	11.5						
12	250	12.0						
13	250	11.9						
14	250	11.5						
15	260	11.0						
16	250	10.8						
17	240	10.4						
18	250	9.9					3.4	
19	240	9.3						
20	250	8.3						
21	260	7.8						
22	290	7.3						
23	290	7.6						

Time: 135.0°E.

Sweep: 1.0 Mc to 22.0 Mc in 1 minute.

Table 40

Akita, Japan (39.7°N, 140.1°E)

April 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	320	8.0					2.2	
01	320	7.9					2.4	
02	300	7.5					2.5	
03	300	7.0					2.4	
04	310	6.6					2.4	
05	320	7.2					2.5	
06	260	8.5						
07	260	10.3						
08	260	11.4						
09	280	11.8						
10	280	11.8						
11	290	12.2						
12	290	12.2						
13	290	12.5						
14	290	12.0						
15	290	11.7						
16	280	11.5						
17	280	11.1					2.5	
18	280	10.7					3.5	
19	260	9.5					3.0	
20	280	8.3					2.5	
21	310	8.0					2.5	
22	330	8.1					2.4	
23	330	8.2					2.2	

Time: 135.0°E.

Sweep: 0.85 Mc to 22.0 Mc in 2 minutes.

Table 41

Tokyo, Japan (35.7°N, 139.5°E)

April 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	8.2						2.7
01	280	8.1						2.7
02	260	7.6					1.4	2.8
03	260	6.9					2.0	2.65
04	280	6.7					1.9	2.6
05	300	7.1			160	1.5		2.6
06	250	8.6	---	----	130	2.4		3.0
07	240	10.1	240	---	110	3.0	3.3	3.0
08	250	11.3	240	---	110	3.4	4.4	2.9
09	260	12.0	230	4.7	110	3.6	4.6	2.9
10	260	12.4	230	4.9	110	3.8	5.1	2.8
11	260	13.0	230	5.0	110	3.8	4.8	2.8
12	270	13.4	230	5.1	110	3.8	4.5	2.8
13	270	13.3	230	5.4	110	3.8	4.5	2.8
14	270	13.2	230	5.1	110	3.8	4.4	2.8
15	270	12.5	250	---	110	3.5	3.6	2.8
16	270	12.2	250	---	110	3.2	4.4	2.8
17	260	11.9	260	---	120	2.6	4.5	2.9
18	260	11.0			---	1.5	4.3	3.0
19	250	9.2					3.4	2.9
20	270	8.3					2.8	2.6
21	300	8.3					2.5	2.6
22	310	8.5						2.6
23	300	8.4						2.7

Time: 135.0°E.

Sweep: 1.0 Mc to 17.2 Mc in 2 minutes.

Table 42

Yamagawa, Japan (31.2°N, 130.6°E)

April 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	290	9.1					2.1	
01	270	9.0					2.2	
02	250	8.7					2.3	
03	240	8.0						
04	250	7.0						
05	280	6.8					2.1	
06	260	7.9					2.3	
07	240	9.6						
08	240	10.8						
09	240	11.6					4.8	
10	250	12.6						
11	250	13.5						
12	250	14.2					4.8	
13	250	14.4					5.0	
14	250	14.4						
15	250	14.2						
16	250	13.7						
17	250	13.2						
18	250	12.8					3.8	
19	240	11.1					3.1	
20	250	9.5					2.9	
21	290	9.1					2.4	
22	300	9.2					2.7	
23	290	9.2					2.4	

Time: 135.0°E.

Sweep: 1.0 Mc to 22.0 Mc in 1 minute.

Table 43

Nairobi, Kenya (1.3°S, 36.8°E)								
April 1956								
Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	220	---						
01	220	>13.6						(3.15)
02	220	>10.4						(2.85)
03	230	10.2						2.95
04	230	9.5					1.8	3.1
05	220	8.7					2.2	3.2
06	220	5.6					2.3	3.3
07	250	8.7				2.2	3.0	3.2
08	250	11.7	240	---	110	3.0		3.2
09	250	12.8	230	---	100	3.4	3.7	3.1
10	260	13.0	220	5.0	100	---	4.0	2.8
11	260	>13.7	220	5.1	100	---		2.6
12	(270)	14.0	---	---	100	---	(4.6)	2.5
13	---	(15.6)	---	---	(100)	---		(2.5)
14	---	>15.8	---	---	(100)	---		(2.45)
15	---	15.6	---	---	100	---	(4.8)	2.45
16	---	14.8	250	---	110	3.5	4.0	2.5
17	---	15.6	250	---	110	3.1	3.8	2.6
18	---	>15.9	260	---	---	---	3.2	(2.7)
19	300	>14.0					3.1	---
20	330	---					2.7	---
21	260	---						
22	220	---						
23	220	---						

Time: 45.0°E.
Sweep: 1.0 Mc to 17.0 Mc in 7 seconds.

Table 44

Leopoldville, Belgian Congo (4.4°S, 15.2°E)								
April 1956								
Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	210	12.0						2.9
01	220	9.1						2.7
02	225	8.0						2.8
03	230	5.5						2.9
04	240	3.7						1.6
05	250	5.6						2.3
06	250	9.3	240	---	120	2.6		3.2
07	260	11.5	230	---	115	3.3		4.0
08	265	12.6	220	---	110	3.6		4.3
09	280	12.8	230	---	110	4.0		4.6
10	355	13.6	230	---	110	4.0		2.4
11	370	>14.0	220	---	110	4.1		2.4
12	375	15.3	240	---	110	---	4.0	<2.4
13	375	15.6	240	---	110	3.7	4.5	<2.4
14	380	>15.7	240	---	110	3.5	4.2	<2.4
15	350	16.0	245	---	110	3.2	4.1	<2.4
16	330	16.0	255	---	115	2.6	3.4	2.4
17	270	---	---	---			3.0	<2.6
18	290	---					3.0	<2.6
19	270	---					2.4	<3.0
20	220	---						<3.1
21	210	---						<3.1
22	220	---						<3.1
23	220	14.0						<3.0

Time: 0.0°.
Sweep: 1.0 Mc to 16.0 Mc in 7 seconds.

Table 45

Elisabethville, Belgian Congo (11.6°S, 27.5°E)								
April 1956								
Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	230	6.2						2.65
01	235	5.0						2.7
02	240	4.0						2.7
03	250	3.6						2.8
04	255	4.3	---	---		1.4		2.7
05	240	8.8	245	---	120	2.2	2.7	3.0
06	245	10.6	230	---	110	3.0	3.4	2.8
07	260	11.8	225	---	110	3.5	3.6	2.8
08	270	12.0	235	---	110	3.7	4.1	2.7
09	295	12.8	240	---	110	3.8	3.8	2.55
10	330	13.2	240	---	110	3.9	3.2	2.5
11	340	13.5	260	---	110	3.9	3.7	2.5
12	335	13.6	250	---	110	3.8	3.9	2.5
13	335	13.6	250	---	110	3.6	3.9	2.5
14	305	13.6	250	---	110	3.2	3.7	2.5
15	270	13.5	250	---	115	2.6	3.6	2.6
16	255	13.2	---	---	---	---	3.0	2.6
17	250	13.0	---	---	---	---	2.7	2.7
18	240	>11.6					2.6	2.8
19	225	12.2					2.3	<2.8
20	235	11.5						2.7
21	230	10.5						2.8
22	225	9.2						2.7
23	240	7.6						2.7

Time: 0.0°.
Sweep: 1.0 Mc to 16.0 Mc in 7 seconds.

Table 46

Johannesburg, Union of S. Africa (26.2°S, 28.1°E)								
April 1956								
Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	<260	4.4						2.0
01	<260	4.1						2.8
02	250	4.1						1.8
03	240	3.9						2.9
04	250	3.6						2.8
05	<260	3.2						2.8
06	260	4.1						2.8
07	230	8.3	---	---	120	2.3		3.3
08	240	10.4	230	---	110	2.9		3.2
09	250	11.6	220	---	110	3.3		3.1
10	250	12.7	220	4.9	110	3.6	3.9	3.0
11	250	13.0	220	5.0	110	3.8	4.1	2.9
12	260	12.8	210	5.0	110	3.8		2.8
13	260	13.0	220	5.0	110	3.9		2.8
14	260	13.2	220	4.7	110	3.7	4.0	2.8
15	250	13.0	230	4.4	110	3.5	4.0	2.8
16	250	12.6	230	---	110	3.1	3.8	2.8
17	240	12.4	240	---	110	2.4	3.2	2.9
18	230	11.9			---	---	2.4	3.0
19	220	10.2					2.2	3.0
20	230	9.0					2.0	3.0
21	240	7.8					2.0	3.1
22	230	6.4					2.1	3.1
23	250	4.8					2.1	2.9

Time: 30.0°E.
Sweep: 1.0 Mc to 15.0 Mc in 7 seconds.

Table 47

Watheroo, W. Australia (30.3°S, 115.9°E)								
April 1956								
Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	250	6.2					2.0	2.8
01	250	6.0					1.8	2.9
02	250	5.8					1.7	2.8
03	250	5.0					2.0	2.95
04	250	4.8						2.9
05	250	4.3						2.9
06	250	4.5				---		2.9
07	250	7.2	---	---		1.9		3.4
08	240	9.0	230	---		2.7	3.2	3.3
09	250	10.2	230	---		3.2	3.8	3.3
10	250	10.5	220	---		3.5	3.9	3.2
11	250	11.0	220	5.2		3.6	4.0	3.2
12	270	12.0	220	5.6		3.7	3.9	2.9
13	260	12.2	240	5.7		3.7	3.9	3.0
14	260	12.2	230	5.1		3.7		2.9
15	260	11.3	240	4.3		3.4	3.6	3.0
16	250	10.8	240	---		3.0	3.4	3.0
17	240	9.6	---	---		2.5	3.3	3.2
18	240	8.2				1.8	2.6	3.2
19	230	7.3					2.6	3.2
20	240	7.3					1.8	3.2
21	250	7.0						3.0
22	250	6.8					2.5	3.0
23	250	6.3					1.6	2.9

Time: 120.0°E.
Sweep: 1.0 Mc to 16.0 Mc in 1 minute 45 seconds.

Table 48

Capetown, Union of S. Africa (34.2°S, 18.3°E)								
April 1956								
Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	270	3.7					2.3	2.8
01	280	3.6					2.0	2.7
02	<300	3.6					2.3	2.6
03	<280	3.6						2.8
04	260	3.4						2.8
05	250	3.1						2.8
06	260	3.0						2.7
07	260	4.9					1.6	2.9
08	230	8.6	---	---	120	2.4		3.25
09	240	10.4	230	---	110	3.0		3.1
10	250	11.8	230	---	110	3.4		3.0
11	250	12.6	220	4.7	110	3.6		2.9
12	260	13.3	220	4.8	110	3.7		2.9
13	260	13.7	230	---	110	3.7		2.8
14	260	13.8	230	---	110	3.7		2.8
15	250	13.6	240	4.6	110	3.6		2.8
16	250	13.3	240	---	120	3.3	3.5	2.8
17	240	12.9	240	---	120	2.8	3.2	2.9
18	230	12.4			120	2.2	2.6	2.9
19	220	11.0					1.7	3.0
20	230	9.0					1.9	3.0
21	230	7.6					2.0	3.1
22	230	5.9					2.0	3.1
23	240	4.5					2.3	2.9

Time: 30.0°E.
Sweep: 1.0 Mc to 15.0 Mc in 7 seconds.

Table 49

Godhavn, Greenland (69,2°N, 53,5°W)							
December 1955							
Time	h°F2	foF2	h°F1	foF1	h'E	foE	fEs (M3000)F2
00	270	(3,0)					<1.6 (2,95)
01	260	(3,0)					<1.6 (2,9)
02	200	(2,8)					<1.6 (2,0)
03	280	(2,7)					<1.5 ---
04	270	---					<1.7 ---
05	(250)	---					<2.0 ---
06	(250)	---					3.2 ---
07	(250)	---					<3.5 ---
08	(250)	---					3.5 ---
09	(250)	(3,9)					3.0 ---
10	270	(4,7)					<2.0 ---
11	260	(5,3)					<2.4 (3,2)
12	250	(5,1)					<3.2 ---
13	240	---					<2.0 ---
14	240	(4,6)					<3.2 ---
15	240	---					4.0 ---
16	250	(3,8)					4.0 ---
17	240	(5,0)					3.9 ---
18	260	(3,8)					4.0 ---
19	260	(4,3)					>4.1 ---
20	250	(4,4)					3.8 ---
21	250	(5,2)					<2.0 ---
22	250	(3,2)					<1.0 (3,0)
23	260	(3,3)					<1.5 (3,0)

Time: 45,0°W.
Sweep: 1.0 Mc to 25.0 Mc in 16.2 seconds.

Table 50

Godhavn, Greenland (69,2°N, 53,5°W)							
November 1955							
Time	h°F2	foF2	h°F1	foF1	h'E	foE	fEs (M3000)F2
00	270	(3,0)					<1.3 ---
01	270	(3,0)					<1.6 ---
02	300	(2,7)					<1.5 ---
03	300	(2,5)					<1.5 (2,8)
04	290	(2,7)					<1.6 ---
05	300	(2,7)					<1.6 ---
06	(250)	---					<2.4 ---
07	(260)	---					<3.6 ---
08	260	---					<2.2 ---
09	290	---					<2.3 ---
10	260	(5,2)	---	---	---	---	<2.1 ---
11	260	(5,9)	---	---	---	---	<2.1 ---
12	240	(5,0)	260	---	---	---	<2.3 ---
13	250	(5,6)	240	---	---	---	<2.4 ---
14	240	(5,4)	250	---	---	---	<2.4 ---
15	250	(4,7)					2.8 (3,0)
16	240	(5,0)					3.5 ---
17	250	(4,5)					3.3 ---
18	240	(4,3)					4.2 (3,0)
19	250	(3,7)					2.4 (2,9)
20	240	(4,0)					3.4 ---
21	250	(3,5)					<1.8 ---
22	250	(3,7)					1.4 ---
23	250	(3,0)					<1.4 ---

Time: 45,0°W.
Sweep: 1.0 Mc to 25.0 Mc in 16.2 seconds.

Table 51

Poitiers, France (46,6°N, 0,3°E)							
July 1955							
Time	h°F2	foF2	h°F1	foF1	h'E	foE	fEs (M3000)F2
00	260	5,0					3,3 3,00
01	260	4,7					2,4 3,00
02	<270	4,2					2,6 2,95
03	265	4,0					2,7 3,00
04	270	3,6	---	---	---	E	2,5 3,05
05	275	4,2	240	3,0	---	1,6	2,6 3,20
06	320	4,8	230	3,7	110	2,3	3,3 (3,35)
07	310	5,1	215	4,0	105	2,6	4,2 (3,30)
08	330	5,4	210	4,3	100	2,9	4,3 3,30
09	315	5,5	200	4,4	100	3,1	5,3 (3,30)
10	340	5,5	210	4,5	100	3,2	5,0 3,25
11	330	5,8	205	4,6	100	3,3	4,5 3,30
12	350	5,8	200	4,5	100	3,3	4,3 3,05
13	350	5,7	200	4,6	100	3,3	5,0 3,20
14	360	5,4	200	4,5	100	3,2	4,4 (3,20)
15	350	5,7	210	4,4	100	3,2	4,2 3,10
16	345	5,5	215	4,3	100	3,0	4,8 3,05
17	320	5,6	225	4,1	105	2,7	4,2 3,05
18	300	5,9	230	3,7	110	2,3	5,2 3,10
19	270	6,4	245	3,0	---	1,7	4,6 ---
20	235	(6,6)			---	E	4,4 ---
21	240	6,4					4,2 3,10
22	250	5,6					3,1 3,15
23	255	5,0					3,1 3,00

Time: 0,0°.
Sweep: 1.6 Mc to 16,8 Mc in 1 minute.

Table 53

Poitiers, France (46,6°N, 0,3°E)							
June 1955							
Time	h°F2	foF2	h°F1	foF1	h'E	foE	fEs (M3000)F2
00	260	4,8					2,7 3,00
01	265	4,4					2,6 2,90
02	260	4,4					2,4 3,00
03	270	3,9					2,6 2,90
04	275	3,9	---	---	---	E	3,0 3,10
05	300	4,4	240	3,2	---	1,8	2,6 3,10
06	320	4,8	225	3,7	110	2,4	3,3 3,10
07	310	5,2	215	4,0	100	2,7	4,0 3,20
08	320	5,4	210	4,2	100	3,0	4,8 3,15
09	330	5,4	215	4,4	100	3,2	4,9 3,20
10	335	5,8	210	4,5	100	3,3	5,1 3,20
11	355	5,7	205	4,5	100	3,2	5,5 3,20
12	365	5,6	200	4,6	100	3,3	5,7 3,20
13	390	5,7	210	4,6	100	3,3	5,0 3,00
14	350	5,6	205	4,5	100	3,3	4,6 3,10
15	350	5,5	210	4,4	100	3,1	4,7 3,05
16	345	5,6	215	4,2	100	3,0	4,6 3,10
17	315	5,0	230	4,0	105	2,7	3,7 3,10
18	300	6,0	245	3,7	110	2,3	4,0 3,10
19	270	6,0	240	3,0	---	1,6	4,7 (3,10)
20	250	6,4	---	---	---	E	3,6 ---
21	240	6,2					3,0 (3,10)
22	250	5,9					4,0 3,00
23	255	5,3					3,5 2,95

Time: 0,0°.
Sweep: 1.6 Mc to 16,8 Mc in 1 minute.

Table 52

Casablanca, Morocco (33,6°N, 7,6°W)							
July 1955							
Time	h°F2	foF2	h°F1	foF1	h'E	foE	fEs (M3000)F2
00	---	5,20					3,6 (3,00)
01	---	5,20					3,2 (2,95)
02	---	5,10					3,8 3,00
03	---	(5,00)					3,7 (2,90)
04	---	4,55					3,4 3,05
05	---	(4,30)					3,7 3,10
06	250	4,50	250	2,90	---	E	3,4 3,30
07	250	5,20	235	3,75	110	2,30	3,7 3,40
08	290	5,75	225	4,10	110	2,70	4,3 3,30
09	300	5,90	205	4,25	105	3,00	6,2 3,40
10	310	6,00	200	4,50	105	3,20	4,4 3,30
11	340	6,10	190	4,60	110	3,30	4,6 3,00
12	340	6,60	210	---	105	3,20	4,8 2,90
13	340	6,50	(215)	---	110	3,30	4,0 3,00
14	365	6,50	210	(4,50)	110	3,20	3,5 2,95
15	350	7,10	215	---	110	3,20	4,2 2,95
16	320	7,50	(230)	4,40	110	3,20	5,0 3,00
17	315	7,60	225	4,20	110	2,80	5,0 3,00
18	280	7,80	240	3,80	110	2,40	4,8 3,15
19	270	8,00	240	3,10	---	E	4,4 3,10
20	240	7,85					3,5 3,20
21	---	6,45					4,0 3,15
22	---	6,10					3,6 (3,10)
23	---	5,70					4,4 (3,00)

Time: 0,0°.
Sweep: 1.6 Mc to 16,0 Mc in 1 minute 15 seconds.

Table 54

Casablanca, Morocco (33,6°N, 7,6°W)							
June 1955							
Time	h°F2	foF2	h°F1	foF1	h'E	foE	fEs (M3000)F2
00	---	5,20					3,3 3,00
01	---	4,85					3,5 (3,00)
02	---	(4,80)					3,4 3,00
03	---	4,70					3,1 3,05
04	---	4,45					3,1 3,00
05	<260	4,40					3,5 3,15
06	250	4,75	235	3,10	---	E	3,5 3,30
07	270	5,70	230	3,90	110	2,40	4,0 3,40
08	285	5,80	210	4,10	105	2,70	4,5 3,40
09	300	6,10	220	4,40	105	3,00	4,7 3,30
10	305	6,20	---	---	105	3,10	5,0 3,30
11	330	6,10	(210)	---	105	3,20	4,5 3,10
12	(355)	6,20	---	---	105	(3,30)	4,2 3,00
13	350	6,55	---	---	105	3,30	3,4 2,95
14	350	6,80	200	---	110	(3,20)	4,1 2,90
15	330	7,10	220	(4,40)	105	3,20	3,6 3,05
16	320	7,40	235	4,30	105	3,10	4,7 3,00
17	305	7,00	215	4,10	105	2,80	4,5 3,00
18	285	8,10	225	3,80	110	2,30	4,2 3,10
19	260	8,30	240	3,10	---	E	4,3 3,15
20	240	7,60					4,0 (3,30)
21	225	6,70					3,5 (3,20)
22	---	5,90					3,4 3,10
23	---	5,50					3,6 (3,00)

Time: 0,0°.
Sweep: 1.6 Mc to 16,0 Mc in 1 minute 15 seconds.

Table 55

May 1955

Talara, Peru (4,6°S, 81,3°W)							
Time	h°F2	foF2	h°F1	foF1	h°E	foE	fEs (M3000)F2
00	220	5,8					<1,5
01	<240	4,9					<1,4
02	240	4,7					<1,3
03	240	4,5					<1,2
04	250	3,6					<1,3
05	240	3,1					<1,3
06	280	3,0			---	<1,2	<1,4
07	240	4,8			120	1,9	3,5
08	---	6,2	230	---	110	2,6	4,4
09	(350)	7,0	220	4,2	110	3,0	4,4
10	380	7,2	210	4,4	110	3,2	4,0
11	410	7,5	210	4,5	110	3,3	
12	440	7,5	200	4,5	110	3,4	4,8
13	420	7,5	200	4,4	110	3,3	3,8
14	400	7,6	200	4,4	110	3,2	4,0
15	(360)	7,8	200	4,2	110	3,0	3,8
16	---	8,0	200	---	110	2,7	3,7
17	---	8,1	210	---	110	2,3	<2,9
18	250	8,0					<2,1
19	270	7,9					<2,0
20	<300	7,2					<2,0
21	280	7,3					<1,6
22	260	7,5					<1,5
23	230	7,4					<1,5

Time: 75,0°W.

Sweep: 1,0 Mc to 25,0 Mc in 13,5 seconds.

Table 56

April 1955

Poitiers, France (46,6°N, 0,3°E)							
Time	h°F2	foF2	h°F1	foF1	h°E	foE	fEs (M3000)F2
00	<300	3,3					2,85
01	290	3,2					2,90
02	<285	3,1					2,95
03	<280	3,0					2,90
04	270	2,9					3,00
05	255	3,0	---	---	---	E	3,20
06	245	3,9	230	2,5	---	1,8	2,0
07	290	4,3	230	3,6	110	2,4	2,4
08	305	5,0	220	3,9	110	2,6	2,6
09	305	5,2	220	4,1	105	2,9	3,0
10	305	5,4	210	4,2	105	3,0	3,0
11	305	5,7	200	4,3	100	3,0	3,5
12	310	5,4	200	4,4	100	3,1	3,5
13	340	5,6	205	4,3	100	3,1	3,4
14	310	5,8	220	4,2	105	3,0	3,2
15	305	5,6	225	4,2	110	2,9	2,9
16	300	5,8	230	4,0	110	2,7	3,0
17	280	5,8	230	3,6	115	2,3	2,6
18	250	5,8	245	2,6	---	1,6	2,4
19	240	5,3	---	---	---	E	2,1
20	235	4,8					2,0
21	245	4,4					2,0
22	250	3,7					3,05
23	300	3,5					(2,90)

Time: 0,0°.

Sweep: 1,6 Mc to 16,8 Mc in 1 minute.

Table 57

April 1955

Casablanca, Morocco (33,6°N, 7,6°W)							
Time	h°F2	foF2	h°F1	foF1	h°E	foE	fEs (M3000)F2
00	---	3,15					2,85
01	---	3,30					2,90
02	---	3,20					2,95
03	---	3,10					3,05
04	---	3,10					3,20
05	---	2,75					3,25
06	245	3,25					3,30
07	240	4,60	235	3,05	120	2,00	3,65
08	250	5,10	225	3,80	110	2,50	2,7
09	265	5,30	210	4,20	105	2,70	3,3
10	295	5,50	210	4,30	105	3,00	3,2
11	330	6,00	200	4,45	105	3,20	3,2
12	310	6,40	220	4,50	105	3,20	3,20
13	320	6,75	230	4,40	105	3,20	3,20
14	320	7,10	245	4,40	105	3,15	3,10
15	300	7,00	230	4,30	105	3,10	3,20
16	290	7,50	230	4,20	105	2,90	3,20
17	275	7,30	235	3,90	110	2,55	3,30
18	260	7,50	240	3,40	120	2,00	3,0
19	240	7,20	---	---			1,9
20	210	6,10					3,55
21	---	4,20					3,20
22	---	3,40					2,90
23	---	3,20					2,80

Time: 0,0°.

Sweep: 1,6 Mc to 16,0 Mc in 1 minute 15 seconds.

Table 58

April 1955

Talara, Peru (4,6°S, 81,3°W)							
Time	h°F2	foF2	h°F1	foF1	h°E	foE	fEs (M3000)F2
00	220	7,6					1,6
01	220	5,8					3,4
02	240	5,9					3,25
03	240	4,9					3,2
04	230	3,7					3,4
05	240	2,7					3,4
06	260	2,3			120	---	2,0
07	250	5,0			130	1,9	3,0
08	(290)	6,7	240	---	120	2,6	3,4
09	320	7,7	220	---	110	3,0	3,7
10	370	8,2	220	4,3	110	3,2	4,5
11	390	8,2	210	4,4	110	3,4	4,4
12	390	8,3	210	4,4	120	3,4	4,4
13	390	8,4	200	4,4	120	3,4	3,9
14	360	8,0	200	4,3	120	3,3	5,0
15	330	9,5	210	4,2	110	3,1	4,6
16	310	9,6	220	---	110	2,8	4,2
17	---	9,4	230	---	120	2,4	5,6
18	250	9,2			100	---	5,1
19	280	9,0					3,2
20	300	8,6					2,95
21	270	8,8					2,95
22	250	8,9					3,2
23	220	9,0					3,45

Time: 75,0°W.

Sweep: 1,0 Mc to 25,0 Mc in 13,5 seconds.

Table 59

January 1955

Poitiers, France (46,6°N, 0,3°E)							
Time	h°F2	foF2	h°F1	foF1	h°E	foE	fEs (M3000)F2
00	250	3,3					2,1
01	260	3,4					(3,10)
02	260	3,4					(3,10)
03	260	3,2					(3,05)
04	250	2,0					(3,30)
05	245	2,4					---
06	<240	2,3					1,9
07	<240	2,7					---
08	205	4,6	---	2,0	---	---	2,3
09	220	5,7	175	2,6	120	2,1	2,4
10	225	6,0	215	3,6	115	2,5	2,5
11	225	6,0	215	3,7	110	2,7	2,8
12	225	6,0	205	3,7	105	2,7	3,75
13	230	5,7	210	3,6	110	2,7	3,65
14	230	5,8	220	3,4	110	2,5	2,5
15	225	5,4	205	2,6	110	2,2	2,4
16	220	5,2	195	2,2	---	E	2,6
17	210	4,2			---	E	2,4
18	220	3,6					2,3
19	220	3,2					(3,55)
20	245	3,2					(3,20)
21	255	3,2					(3,10)
22	250	3,3					1,9
23	250	3,3					(3,15)

Time: 0,0°.

Sweep: 1,6 Mc to 16,8 Mc in 1 minute.

Table 60

January 1955

Casablanca, Morocco (33,6°N, 7,6°W)							
Time	h°F2	foF2	h°F1	foF1	h°E	foE	fEs (M3000)F2
00	---	3,10					2,2
01	---	3,10					3,10
02	---	3,10					3,10
03	---	3,00					3,20
04	---	3,00					3,20
05	---	2,65					3,40
06	<250	2,30					3,20
07	---	2,55					3,30
08	225	4,80	---	---	---	E	3,70
09	235	5,70	225	(3,30)	115	2,30	3,5
10	250	6,35	225	4,00	110	2,70	3,5
11	245	6,55	215	4,20	110	2,90	3,6
12	255	6,20	205	4,20	110	3,00	3,60
13	260	5,05	210	4,20	110	3,00	3,6
14	260	5,70	220	4,10	110	2,95	3,5
15	255	5,80	220	3,90	110	2,80	3,50
16	240	5,70	235	(3,60)	115	2,45	3,3
17	230	5,20	---	---	---	1,80	3,0
18	215	4,65					2,6
19	---	3,70					2,6
20	---	3,00					2,5
21	---	2,90					2,3
22	---	3,00					2,8
23	---	2,90					2,5

Time: 0,0°.

Sweep: 1,6 Mc to 16,0 Mc in 1 minute 15 seconds.

TABLE 61
IONOSPHERIC DATA

foF2, 0.1 Mc, Sept. 1956

75° W Mean Time

Station: Washington, D.C. Lat. 38.7°N Long. 77.1°W Sweep 1.0 Mc to 25.0 Mc in 13.5 sec.

Manual ☐ Automatic ☒

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
01	F	U F	U F	U F	F	F	66	76	92	98	98	100	100	98	103	101	102	100	100	96	82	76	F	58
02	F	U F	U F	U F	F	F	E G	U F	E G	E G	E G		F	60	63	64	68	68	70	64	56	50	44	39
03	F	U F	U F	U F	U F	U F	F	U F																
04	57	51	48	30	24	24	48	56	58	58	62	64	70	72	73	72	74	74	73	69	64	57	59	57
05	55	54	50	45	40	35	60	80	90	100	105	110	109	109	106	104	100	100	98	90	76	72	73	69
06	64	64	60	53	54	50	72	88	92	95	100	104	105	105	102	98	92	90	91	95	90	74	68	71
07	64	64	56	53	48	46	57	76	92	92	102	100	108	104	107	100	97	97	93	92	84	78	73	69
08	64	62	60	51	47	48	59	72	87	80	88	84	78	80	80	70	69	69	67	60	54	49	47	45
09	43	42	38	38	38	38	56	76	81	92	98	106	109	110	115	110	113	110	102	90	76	67	67	62
10	60	53	49	38	32	31	48	65	74	82	90	90	96	98	98	100	92	90	90	76	73	67	64	63
11	60	59	55	56	56	48	56	72	80	85	100	96	100	100	97	98	92	90	90	90	82	72	63	62
12	62	60	65	56	51	48	62	80	98	98	102	103	103	106	103	102	100	100	100	97	82	80	70	66
13	U S	64	66	62	50	45	53	65	69	69	68	69	69	68	68	U S	71	72	72	71	70	64	65	58
14	J	U J	J	J	F																			
15	67	66	63	60	56	51	62	72	92	100	102	105	103	105	103	105	103	100	96	88	82	82	80	72
16	70	68	62	59	57	55	69	92	102	107	116	118	116	116	120	120	113	108	104	106	90	85	79	74
17	71	68	68	64	64	62	69	83	108	120	120	115	116	118	115	115	113	113	110	100	89	83	76	72
18	74	72	66	62	59	58	74	102	113	115	115	118	116	115	115	111	107	107	106	94	84	82	75	72
19	66	66	64	58	56	53	67	94	110	115	116	120	120	120	119	115	115	112	108	96	90	85	76	71
20	68	68	64	67	66	63	69	86	103	117	118	120	115	125	129	118	114	109	98	89	83	77	72	68
21	61	58	55	51	56	50	65	89	111	115	127	127	124	122	119	116	115	109	110	100	87	75	69	68
22	63	57	38	42	40	39	45	63	72	90	103	110	113	119	114	113	108	105	102	90	78	73	68	70
23	70	63	58	44	38	38	53	78	100	112	120	123	126	128	128	120	118	115	108	92	84	83	80	83
24	76	70	63	62	53	49	57	84	100	115	118	122	123	120	116	115	113	108	100	92	85	76	77	76
25	77	74	69	56	48	45	56	90	105	110	114	116	120	119	120	114	112	107	107	96	86	80	76	70
26	66	66	62	60	56	55	58	70	74	75	84	87	93	94	96	98	98	91	87	76	72	70	66	62
27	61	60	55	50	42	38	48	71	85	96	109	115	119	118	115	111	114	111	108	96	85	72	68	67
28	64	65	68	67	50	40	54	78	90	110	113	115	116	118	117	115	113	112	102	88	82	79	74	71
29	68	69	64	60	55	50	56	75	92	105	108	111	115	116	115	116	115	113	105	94	77	70	73	71
30	70	69	62	57	50	44	52	82	105	114	113	119	116	117	118	117	117	115	105	89	78	77	70	68
MED	64	64	60	54	50	47	57	77	92	98	102	108	109	110	110	108	105	102	100	90	82	75	70	68
NO	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30

CENTRAL RADIO PROPAGATION LABORATORY, NATIONAL BUREAU OF STANDARDS, BOULDER, COLO.

TABLE 62
IONOSPHERIC DATA

foF2, 0.1 Mc, Sept. 1956

75° W Mean Time

Station: Washington, D.C. Lat. 38.7°N Long. 77.1°W Sweep 1.0 Mc to 25.0 Mc in 13.5 sec.

Manual ☐ Automatic ☒

	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130	1230	1330	1430	1530	1630	1730	1830	1930	2030	2130	2230	2300	
01	U F 51	U F 48	U F 49	U F 51	F 52	F 52	75	83	92	96	98	98	100	98	102	102	96	98	96	88	82	70	F 56	57	
02	U F 31	U F 36	U F 32	U F 33	F 32	U F 33	E G 33	43	48	E G 46	E G 48	55	58	63	U S 62	F 66	65	68	66	U F 60	U F 50	U F 46	U F 40	U F 40	
03	U F 35	U F 27	U F 34	F 32	U F 26	U F 35	54	64	70	78	78	82	83	82	82	82	82	82	86	78	70	64	58	57	
04	57	50	37	U F 27	U F 19	U F 33	50	58	59	60	63	67	70	72	57	73	74	75	I A 71	66	63	58	58	U C 56	
05	F 56	F 53	48	43	F 34	F 42	71	87	98	103	107	106	110	108	105	100	100	100	B 98	84	77	72	74	64	
06	61	64	56	54	52	56	H 80	94	90	98	102	106	106	102	101	94	93		93	90	83	74	72	67	
07	64	64	55	J 50	48	49	F 68	84	96	99	100	106	108	108	105	100	97	98	92	85	80	77	70	66	
08	63	63	58	48	F 46	F 50	63	72	84	V 80	H 86	78	80	F 75	F 75	F 66	69	67	67	58	53	F 48	45	45	
09	F 43	F 39	F 38	F 39	F 38	F 44	70	78	90	94	103	108	110	112	110	110	112	106	96	84	72	67	64	60	
10	F 58	F 53	F 44	F 33	F 31	F 37	58	69	75	85	90	94	96	98	100	98	90	88	84	71	70	64	63	J 62	
11	58	58	56	J 56	54	50	64	70	85	92	97	98	100	98	99	95	93	92	92	85	75	F 69	F 62	F 62	
12	U J 60	U J 59	U F 62	U F 55	U F 48	U F 52	71	88	92	102	103	107	106	107	103	U S 101	100	98	99	97	90	78	69	64	
13	60	65	64	54	49	47	60	68	69	69	68	68	69	68	70	U S 71	73	71	70	67	66	62	58	U S 57	
14	U J 54	55	54	J 50	48	72	87	93	92	96	98	98	98	97	96	96	94	92	86	76	75	71	68	F 70	
15	F 69	F 64	F 62	F 58	F 54	53	71	87	94	102	104	104	105	105	104	104	104	100	92	84	82	82	79	70	
16	F 69	F 63	F 62	F 55	F 56	58	80	98	105	110	119	118	116	120	120	117	107	108	105	98	85	85	79	72	
17	69	68	65	64	63	63	80	103	110	120	120	117	116	115	115	112	113	110	105	94	86	78	77	74	
18	72	69	64	61	59	63	88	107	115	116	117	119	114	115	112	108	112	108	103	86	83	83	77	72	
19	68	66	60	56	55	56	78	101	116	114	120	120	120	120	115	119	113	110	103	92	88	82	72	68	
20	68	68	65	67	63																				

TABLE 63
IONOSPHERIC DATA

foF1, 0.1 Mc, Sept. 1956

75° W Mean Time

Station: Washington, D.C. Lat. 38.7°N Long. 77.1°W Sweep 1.0 Mc to 25.0 Mc in 13.5 sec.

Manual ☐ Automatic ☒

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
01							Q	L	L	L	L	L	H	L	L	L	L	L	Q					
02							F	F		H	H	H			F	U	S	L	L					
03							360	360	410	450	480	500	520	510	520	510		L	L					
04							Q	L	L	L				L	L	L	L	L	L	Q				
05							Q	Q			580	590	600					L	L	A				
06									450	500	520	550	560	520	550	570		L	L					
07								Q	A	L	L		H	L	L	L	L	L	Q					
08							Q	L	L	L	L	L	L	L	L	L	L	L	C					
09								Q	L	L	H	U	L	U	L		L	L	Q	Q				
10									L	L	550	630	600	540			L	L	A					
11									L	L	580	570	560		590		L	L						
12									L	L	L	L	L	L	L	L	L	L	Q					
13								Q	L	L		L	L	L	L	L	L	L	Q					
14							Q	L	L	L	500							L	L	Q				
15									L	L	H	H	H	U	L	L	L	Q	Q					
16								Q	L	L	570	580	600	620			L	L	Q					
17									L	L	L	L	L	L	L	L	L	L	Q					
18									L	L	L	L	L	L	L	L	L	L	Q					
19									L	L	L	L	L	L	L	L	L	L	Q					
20									L	L	L	L	L	L	L	L	L	L	Q					
21									L	L	L	L	L	L	L	L	L	L	Q					
22									L	L	L	L	L	L	L	L	L	L	Q					
23									L	L	L	L	L	L	L	L	L	L	Q					
24									L	L	L	L	L	L	L	L	L	L	Q					
25									L	L	L	L	L	L	L	L	L	L	Q					
26									L	L	L	L	L	L	L	L	L	L	Q					
27									L	L	L	L	L	L	L	L	L	L	Q					
28									L	L	L	L	L	L	L	L	L	L	Q					
29									L	L	L	L	L	L	L	L	L	L	Q					
30									L	L	L	L	L	L	L	L	L	L	Q					
MED											550	580	600	550	550									
NO							1	1	2	3	9	10	12	8	7	4								

CENTRAL RADIO PROPAGATION LABORATORY, NATIONAL BUREAU OF STANDARDS, BOULDER, COLO.

TABLE 64
IONOSPHERIC DATA

10E, O.I Mc, Sept. 1956

75° W Mean Time

Station: Washington, D.C. Lat. 38.7°N Long. 77.1°W Sweep 1.0 Mc to 25.0 Mc in 13.5 sec.

Manual ☐ Automatic ☒

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
01							A	U A	U A	U A	I A								A						
02							A	F	U A				I A				I B								
03							200	U A	U A	U R			U R				H								
04							200	H	A	A			H												
05								A	A	A			I B				H								
06							S	H	H	I R	R		B		H	U R	H	H	U R	I C					
07								270	I A				H				H								
08								250	290	350	360	370	380	380	380	360	330	300							
09								H	I B	H	I A	H	H	I R				A	B						
10								H	U R		I A	H				H		B	B						
11							B	B	B	A	A	A	A			H	H	A	A	B					
12								A	H	A	A	H	H	H				H							
13							S		310			360	390	390	380	370	330	280	220						
14							S	280	330	360	390	390	380	370	360	350	330	280							
15								U B										A							
16								H																	
17								A	A	A	H	I A				H	I B	H	S						
18																									
19								260	290	320	360	360	390	400	400	380	330	280							
20																									
21								280	300	340	350	360	380	380	360	340	320	260							
22								U S	H	H	H	H					H	A							
23								250	300	340	360	370	370	380	370	340	310	260							
24								A	H								H	H	S						
25								300		340	360	370	380	380	380	330	290	250							
26								250	300	340	370	380	380	360	360	330	300	250							
27								250	300	340	360	380	370	370	360	340	310	240	170						
28								U A	F			U A				H	H	S							
29								250	310	340	360	360	370	360	340	340	300	230							
30																									

TABLE 65
IONOSPHERIC DATA

fEs, 0.1 Mc, Sept. 1956

75° W Mean Time

Station: Washington, D.C. Lat. 38.7°N Long. 77.1°W Sweep 1.0 Mc to 25.0 Mc in 13.5 sec. Manual ☐ Automatic ☒

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
01	S	22	S	S	S	S	38	38	40	42	45	G	G	G	G	48	46	31	30	S	29	S	S	S
02	S	S	S	S	27	24	25	45	40	72	72	G	45	G	G	40	G	G	23	S	S	S	S	S
03	S	E	S	S	S	S	G	29	82	G	50	G	G	G	G	G	39	46	G	B	S	S	S	S
04	S	S	S	Y	S	S	G	G	38	37	G	G	G	G	100	43	53	50	48	41	28	28	31	S
05	33	25	S	S	S	S	22	30	60	110	70	G	B	G	G	G	36	30	23	28	S	S	S	S
06	S	S	S	S	B	B	19	G	Y	44	G	G	B	G	G	G	G	G	C	B	B	S	S	B
07	E	S	B	S	S	Y	26	42	27	43	G	68	39	G	G	G	G	G	G	S	S	S	S	S
08	S	S	S	S	S	S	B	G	G	G	G	88	G	G	G	46	34	G	54	B	B	B	B	B
09	S	S	S	S	S	16	16	27	33	39	G	37	G	45	29	39	40	33	B	B	S	B	B	S
10	S	S	S	S	S	S	B	27	33	35	38	39	G	G	G	G	G	29	B	B	B	B	B	S
11	S	S	S	S	33	S	B	26	32	37	39	50	42	G	36	G	36	48	24	48	58	18	26	45
12	35	28	S	E	E	S	18	31	G	42	45	G	G	G	22	68	21	G	G	S	S	S	S	S
13	S	S	S	S	S	S	S	G	G	G	G	G	G	G	G	G	G	G	G	S	S	S	S	S
14	S	S	S	S	S	S	S	G	G	G	G	41	G	40	38	G	G	35	26	S	S	18	S	S
15	S	S	S	S	19	20	B	G	G	G	64	G	38	G	G	G	44	38	35	52	18	S	S	S
16	S	S	S	S	S	S	17	G	G	G	G	G	54	45	G	G	G	39	31	18	S	S	S	S
17	S	S	E	S	S	S	39	52	44	34	G	H	38	G	G	G	B	G	G	18	S	S	S	S
18	S	S	S	S	S	S	18	G	G	G	G	G	G	G	G	G	G	G	S	S	B	S	S	S
19	S	S	E	E	E	S	B	G	G	42	G	G	G	G	G	G	G	36	G	S	S	S	S	S
20	S	S	S	S	S	S	B	21	28	G	G	G	40	49	40	36	42	28	64	29	S	S	S	S
21	S	S	S	S	S	32	B	31	G	55	G	G	G	G	G	G	G	G	G	S	S	S	S	S
22	S	S	15	S	S	S	B	G	G	G	G	G	G	G	G	G	G	G	19	49	S	S	S	S
23	S	S	S	E	E	S	B	G	G	G	G	G	G	G	G	G	39	G	G	S	S	S	S	S
24	39	S	S	S	E	S	B	32	39	G	G	38	G	G	36	G	G	G	G	S	S	S	S	S
25	E	S	S	S	S	S	S	24	38	37	G	G	G	G	G	G	G	38	37	18	S	S	S	E
26	S	S	S	S	S	S	B	20	30	G	45	G	G	G	G	32	G	G	17	S	S	S	S	S
27	22	23	S	S	S	S	S	G	38	G	G	G	38	37	36	43	40	33	B	S	S	S	S	S
28	S	S	S	S	S	S	S	G	G	G	G	G	G	39	36	G	S	S	25	17	S	S	S	S
29	S	S	S	S	S	S	S	B	29	34	35	36	33	G	G	G	G	G	B	B	S	B	B	B
30	B	S	44	30	C	C	S	22	G	33	42	29	C	42	39	33	17	G	G	32	C	B	S	S
MED	U 22	U 23				U 22			30											18	U 18			
NO	7	5	5	5	8	6	23	30	30	30	30	30	29	30	30	29	29	29	28	14	9	8	6	5

CENTRAL RADIO PROPAGATION LABORATORY, NATIONAL BUREAU OF STANDARDS, BOULDER, COLO.

TABLE 66
IONOSPHERIC DATA

fmin, 0.1 Mc, Sept. 1956

75° W Mean Time

Station: Washington, D.C. Lat. 38.7°N Long. 77.1°W Sweep 1.0 Mc to 25.0 Mc in 13.5 sec.

Manual ☐ Automatic ☒[illegible]

TABLE 67
IONOSPHERIC DATA

h'F2, Km, Sept. 1956

75° W Mean Time

Station: Washington, D.C. Lat. 38.7°N Long. 77.1°W Sweep 1.0 Mc to 25.0 Mc in 13.5 sec. Manual ☐ Automatic ☒

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
01	270	290	300	300	310	270	240		L	L	270	300	340	290	310	310	270	280	250	240	240	240	250	320	
02	310	420	410	350	380	420		750		G	G		540	540	520	450	430	360		270	260	250	270	310	360
03	400	360	340	280	270	340	260		L	L		340	370	350	330	330		320	290	270	250	250	280	290	
04	270	270	290	300	400	350	270	240	300		440		400	340	400	370		290	270	260	250	270	310	300	
05	280	270	240	270	250	260	260	240	240		280	310	330		280	280	250	270	240	230	230	250	290	250	
06	300	290	260	280	300	280	250	250	250	300	260	300	300	330		270		300	260	250	250	260	270	270	
07	260	270	250	240	280	280	260	240	260	250	300	315	320	290	290	270	250	250	250	240	250	240	260	260	
08	270	270	270	270	290	300	270		270	250	400	460	400		350	290			330	280	300	290	300	310	
09	310	310	310	320	270	270	270	230	240		280	260	300	270	310		280	250	240	250	220	270	280	270	
10	270	250	250	270	280	330	260	240	300	320	280	270	340	330	320	300			250	230	250	270	300	290	
11	300	330	320	310	290	250	250	260		270	320	280	320	330	310	310		250	250	250	260	240	260	290	
12	310	300	270	250	250	260	250	230	260	270	250		280		280	290			250	250	240	240	230	290	
13	350	330	290	270	290	300	310	300	350			460	490	500	480	450		310	280	250	260	280	280	300	
14	300	310	280	280	280	280	260	250	230	250	350	330		350	350	320			250	240	240	270	270	280	
15	290	280	270	270	270	260	260	250	240	250			310	350	340			250	250	260	240	260	250	260	
16	260	260	270	270	260	250	240		250	260			350	360	320			280	240	250	230	250	260	260	
17	270	290	280	270	260	240	230	240	250	250	300		310				270	290	240	230	230	250	260	260	
18	270	260	250	250	260	260	250	240	240	240		250	240		300	250	260	270	240	230	240	250	250	250	
19	260	260	260	250	250	240	240	230	240	240	230	260	300	310	310	320		260	240	230	240	240	250	290	
20	320	320	340	310	270	260	250	260	250		300	320		340	300			250	250	250	280	280	290		
21	310	320	310	300	260	250	250	250	260	240		270	290	300	300			270	240	230	230	250	270	300	
22	320	350	350	350	330	260	280	250	250	260		290	310				260	260	240	250	250	270	280	300	
23	280	250	270	290	290	270	260	230	250	240	250	280	290	280	260	250	260	260	230	230	250	260	260	260	
24	260	240	250	250	250	270	260	240	230			270		270				260	230	240	260	270	290	300	
25	270	240	250	230	250	250	250	240	240	250	260	270	290				270	240	240	230	250	270	270	280	
26	300	310	300	300	300	280	270	270	260		330	330	340	320	300			240	240	240	260	260	280	290	
27	280	280	260	240	250	250	250	240	260		260	300	280	270			260	250	230	230	230	240	270	290	
28	300	320	280	250	230	240	270	230	230		250	260	310		280	280	250	250	220	230	240	250	250	270	
29	270	260	250	270	260	250	250	240	250	250	260	280	270			280		240	230	230	250	270	270	290	
30	280	250	260	270	270	260	260	230		240	260	250	280	250	290		240	240	230	240	240	260	260	290	
MED	280	280	270	270	270	260	260	240	250	250	270	300	310	330	310	290	260	260	240	240	250	260	270	290	
NO	30	30	30	30	30	30	30	27	26	19	23	25	27	21	24	17	14	24	30	30	30	30	30	30	

CENTRAL RADIO PROPAGATION LABORATORY, NATIONAL BUREAU OF STANDARDS, BOULDER, COLO.

TABLE 68
IONOSPHERIC DATA

h'F₁, Km, Sept. 1956

75° W Mean Time

Station: Washington, D.C. Lat. 38.7°N Long. 77.1°W Sweep 1.0 Mc to 25.0 Mc in 13.5 sec.

Manual ☐ Automatic ☒

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
01							Q		230	220	230	210	210	H	220	220	225	230	240	Q				
02							F	F	250	250	245	H	H	H	235	230	220	250	230	240				
03							Q		240	230	210	215	230	230	220	230	220	230	240	Q				
04							Q			210	215	220	200	H	H	H	I	A	U	A	A			
05								Q	A	220	210	210	210	H	H	H	220	230	230	240	Q			
06							Q		250	230	220	240	230	230	220	230	220	240	250	C				
07							Q		230	230	215	210	200	220	215	215	215	215	215	Q	Q			
08									240	240	210	220	230	240	230	230	240	240	265	A				
09									235	240	220	210	215	210	220	220	230	240	240	Q				
10								Q		230	220	215	230	210	215	220	230	225	250	Q				
11							Q		255	230	230	210	205	200	220	220	235	220	Q	Q				
12								Q		230	210	210	200	220	210	210	225	230	250	Q				
13							240	240	280	220	220	220	220	230	230	240	240	250	Q					
14							Q	Q		220	220	190	215	220	215	220	230	240	Q	Q				
15									240	230	210	210	200	205	215	220	240	235	Q	Q				
16									235	230	220	215	220	240	220	230	230	240	240	Q				
17								Q		215	215	215	210	205	210	225	U	S	240	230	250	Q		
18								Q		230	220	220	200	200	210	230	220	240	240	Q				
19								Q		220	210	210	H	H	H	H	230	240	240	Q				
20									245	225	220	200	200	210	230	230	230	235	245	Q				
21									235	225	220	205	205	205	210	215	230	240	240	Q				
22								Q		230	215	210	210	215	210	220	220	225	240	Q				
23								Q		235	230	210	215	210	220	225	U	C	220	220	240	Q		
24								Q			225	200	205	200	205	210	215	240	240	Q	Q			
25								Q		235	220	205	200	210	215	220	220	235	Q	Q				
26									250	235	230	220	215	205	200	220	210	230	Q					
27										220	215	215	215	225	210	215	220	240	Q					
28								Q	Q		H	H	H	H	H	230	225	230	Q					
29								Q		230	210	220	225	210	200	215	235	240	Q					
30								Q		230	225	200	200	I	C	210	210	215	220	240	Q			
MED									240	230	220	210	210	210	215	220	230	235	240					
NO								2	13	26	30	30	30	30	30	30	30	30	21					

TABLE 69
IONOSPHERIC DATA

h'E, Km, Sept. 1956

75° W Mean Time

Station: Washington, D.C. Lat. 38.7°N Long. 77.1°W Sweep 1.0 Mc to 25.0 Mc in 13.5 sec.

Manual ☐ Automatic ☒

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
01							119 A	111	111	109	109	109	101	105	101	101	111 I B	113	119					
02								111	109	101	101	109	109	111	111	103	109	115						
03							115 H	111	107	107	103	105	115	111	111	109 H	109	111	121					
04							133 H	119	109	109	109	109	109 H	111	101	109 U A	115	117	119 U A					
05								119	109	109	109	109	107 H I B	105	101	101	101	111	125 U B					
06							S	119 H	115 H	109	113	111		113	113	109 H	111	115	121 I C					
07								111	110	109	105	105	105	105	101	101	101	115	121 B					
08								117	109	103 H	101	101	101	101	99	105	109	119						
09								109	105	105 I B	103	101	101	109	109	119	119	A	B					
10								109 H	109	113	109	109	109	109	101	109	105	B	B					
11							B	B	B	A	A	A	U A 107	109	109	109	109	A	B					
12								111	109	109	109	115	109	101	111	111	111	117	129					
13							S	111 H	109	109	109	109	109	103	101	107	111	117	119					
14							S	111	103	109	101	101	101	99	99	105	109	111	B					
15								U B 121	103	101	101	101	109	109	109	109	109	111	A					
16								109 H	103	103	103	101	101	101	109	109	109	119	A					
17								A	A	U A 109	105	101	101	101	101	101	101	113	S					
18								115	105	103 H	101	101	101	99	99	99	99	111	S					
19								113	109	103	101	105	101	101	101	101	109	111	S					
20								A	A	H 103	103	105	101	101	109	109	109	111	A					
21								115	109	109	109	105	101	109	105	105	109	119	S					
22								111	107	105	109	103	109	109	109	109	109	119	S					
23								117	109	109	101	109	109	105	109	109	109	111	139					
24								115 H	109	105	103	101	109	103	101	109	111	119	S					
25								111 H	109	109	109	109	109	109	109	109	111	120	A					
26								127	109	109	109	109	109	101	101	101	109	115						
27								105 H	109	109	109	111	111	111	109	109	109	119						
28								121	125	109	103	109	109	109	109	109	109	119						
29								B	121	109	101	101	109	109	109	109	115	119						
30								B	107	109	101	103		101	101	99	111	119						
MED								111	109	109	105	105	109	105	107	109	109	115	121					
NO							3	25	27	29	29	29	28	30	30	30	30	27	9					

CENTRAL RADIO PROPAGATION LABORATORY, NATIONAL BUREAU OF STANDARDS, BOULDER, COLO.

TABLE 70
IONOSPHERIC DATA

(M3000) F2, Sept. 1956

75° W Mean Time

Station: Washington, D.C. Lat. 38.7°N Long. 77.1°W Sweep 1.0 Mc to 25.0 Mc in 13.5 sec.

Manual ☐ Automatic ☒

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
01	F 270	U 270	F 260	U 270	F 270	F 280	F 320	320	310	300	290	285	290	275	280	285	290	290	300	305	290	300	F 280	260	
02	F 255	U 240	F 250	U 270	F 275	F 260	G 210	U F	G	G	G	245	240	250	F 260	U 265	285	285	300	F 300	285	U 275	F 260	F 240	
03	F 235	U 260	F 270	U 290	F 255	U 320	F 320	310	285	300	280	290	280	285	280	280	290	290	290	290	280	280	270	270	
04	275	270	270	260	U 260	U 260	F 330	300	310	300	270	255	280	270	275	285	290	290	295	290	280	255	260	270	
05	270	280	290	290	290	F 290	F 320	330	315	300	295	290	280	275	280	280	290	290	290	C 300	290	275	270	275	
06	260	250	260	265	260	270	300	320	335	295	285	290	275	280	280	285	280	275		270	280	285	U 265	270	
07	270	270	285	275	270	295	300	305	315	305	300	290	285	280	280	285	285	290	295	295	280	285	285	275	
08	F 290	F 280	F 275	F 290	F 275	F 270	F 305	310	310	300	250	235	270	F 270	280	290	265	270	265	280	270	285	290	F 280	
09	285	270	280	270	290	265	310	320	310	310	280	280	280	270	280	275	280	285	290	300	290	270	270	280	
10	F 280	F 300	F 300	F 310	F 305	F 280	F 310	300	300	290	300	290	285	280	280	280	280	290	295	300	280	270	F 270	270	
11	F 275	U 260	U 260	U 260	U 280	U 285	U 310	U 335	U 300	U 320	U 300	285	285	280	275	280	280	290	295	290	275	285	F 280	285	
12	280	270	265	270	280	280	310	320	325	300	300	285	280	275	275	U 275	270	275	280	285	275	270	280	250	
13	U 285	U 240	U 265	U 260	U 260	U 260	U 280	290	295	270	280	255	250	245	250	U 255	270	280	285	275	280	270	270	265	
14	U 255	U 255	U 250	U 265	U 275	U 270	U 260	270	295	310	290	285	275	275	275	270	275	285	285	280	290	260	270	275	
15	F 265	F 270	F 275	F 280	F 275	F 280	F 295	320	310	300	290	285	280	270	265	270	275	280	285	270	265	270	275	290	
16	F 290	F 280	F 275	F 280	F 280	F 315	F 315	310	295	275	270	260	260	260	265	280	270	275	275	270	275	S 270	F 290		
17	270	260	260	260	270	285	300	320	310	290	285	280	265	270	265	260	270	280	290	280	280	275	270	280	
18	280	275	285	270	275	280	305	315	305	300	285	285	275	265	265	270	280	285	300	310	320	28			

TABLE 71
IONOSPHERIC DATA

(M3000) F1, Sept. 1956

75° W Mean Time

Station: Washington, D.C. Lat. 38.7°N Long. 77.1°W Sweep 1.0 Mc to 25.0 Mc in 13.5 sec.

Manual ☐ Automatic ☒

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
01							J	L	L	L	L	L	H	L	L	L	L	L	O					
02							F	F		H	H	H	340		F	U S	L	L						
03							320	340	350	360	350	345	345	350	350	350								
04							L	L	L		330	320	325	L	L	L	L	L	O					
05							O	O	355	350	370	350	340	360	A	325	L	L	A					
06							O	A	L	L	L	340	350	L	L	L	L	L	O					
07							O	L	L	L	L	L	L	L	L	L	L	L	C					
08								L	L	L	H	U	L	H	L	L	L	L	O	O				
09								L	L	L	360	350	340	370			L	L	A					
10								L	L	L	320	340	330	L	330		L	L	L					
11								L	L	L	L	L	L	L	L	L	L	L	O					
12								O	L	L	370	L	L	L	L	L	L	L	G					
13								O	L	L	L	H	H	H	U	L	L	O	O					
14								O	L	L	350	340	360	335		L	L	L	O					
15								O	L	L	L	L	L	L	370	390		L	L	O				
16								L	L	L	L	L	L	L	345	325	340	335	280	L	L	O		
17								O	O	O	L	U	L	L	L	335	340	340	L	L	O			
18								L	L	L	360	335	L	L	H	L	H	L	O	O				
19								L	L	L	L	L	345	L	350	L	L	L	O					
20								L	L	L	L	L	340	330	L	L	L	L	O					
21								O	L	L	L	L	L	L	L	L	L	L	O					
22								O	L	L	L	L	L	L	L	L	L	L	O					
23								O	L	L	L	L	L	L	L	L	L	L	O					
24								O	O	L	L	L	L	L	L	L	L	L	O					
25								O	L	L	L	L	L	L	L	L	L	L	O	O				
26								L	L	L	H	L	H	L	L	L	L	L	O					
27								L	L	L	345	345	355	L	L	L	L	L	O					
28								O	O	L	L	L	L	L	L	L	L	L	O					
29								O	L	L	L	L	L	L	L	L	L	L	O					
30								O	L	L	L	L	L	L	L	L	L	L	O					
MED											350	340	340	345	345									
NO							1	1	2	3	9	10	12	8	6	4								

CENTRAL RADIO PROPAGATION LABORATORY, NATIONAL BUREAU OF STANDARDS, BOULDER, COLO.

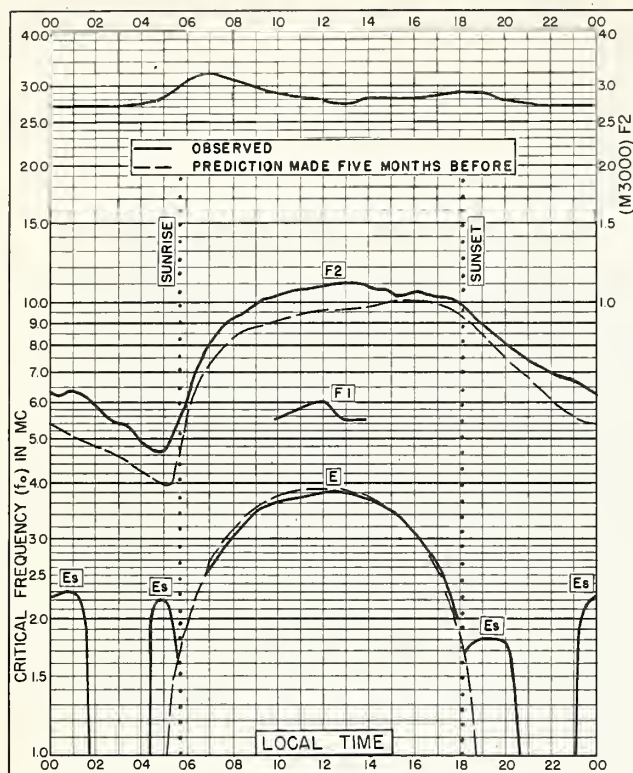


Fig. 1. WASHINGTON, D. C.
38.7°N, 77.1°W
SEPTEMBER 1956

NBS 503

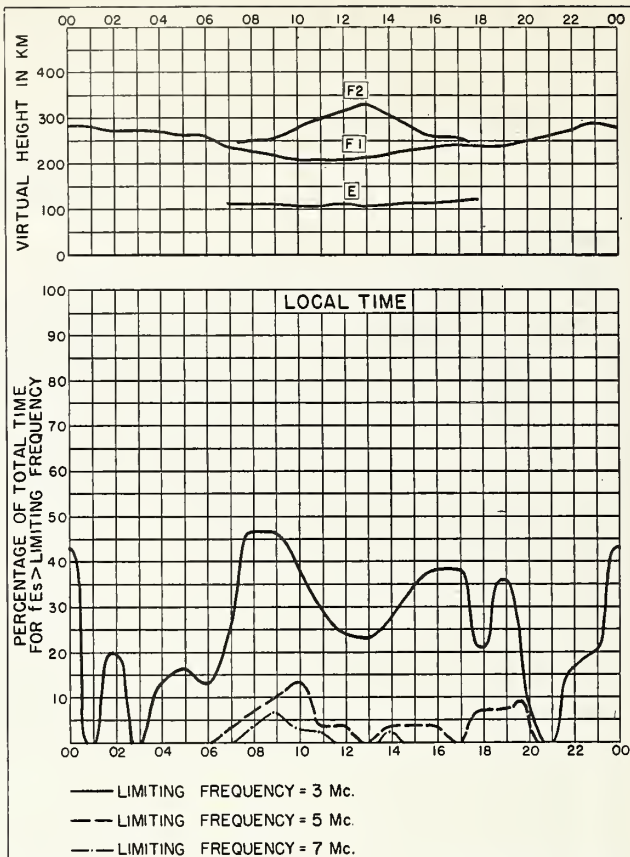


Fig. 2. WASHINGTON, D. C.
SEPTEMBER 1956

NBS 490

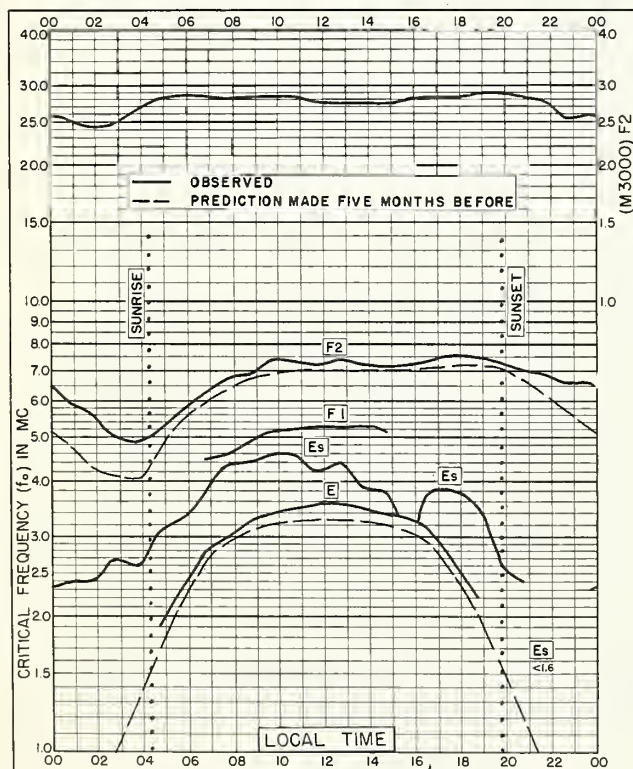


Fig. 3. OSLO, NORWAY
60.0°N, 11.1°E
AUGUST 1956

NBS 503

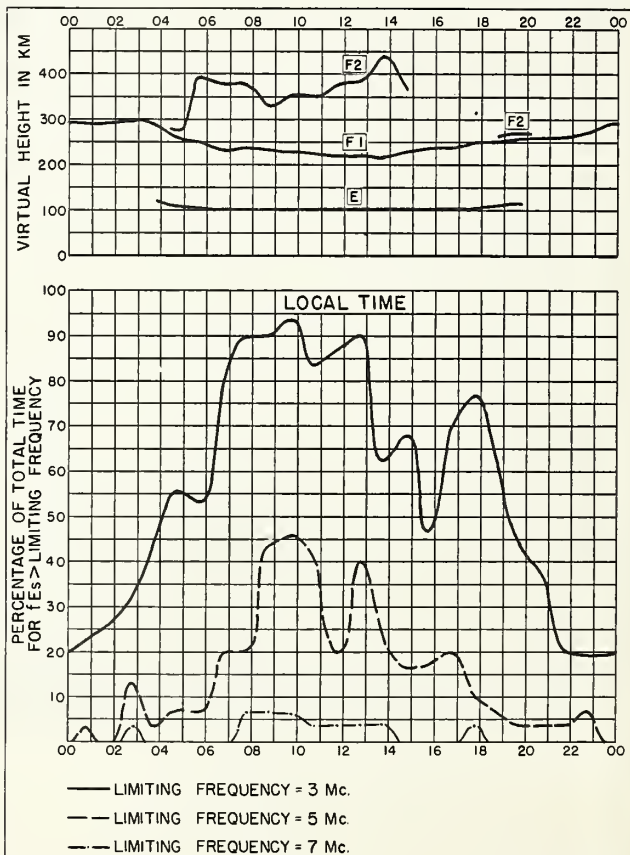


Fig. 4. OSLO, NORWAY
AUGUST 1956

NBS 490

N. S. INTERNATIONAL RESEARCH OFFICE

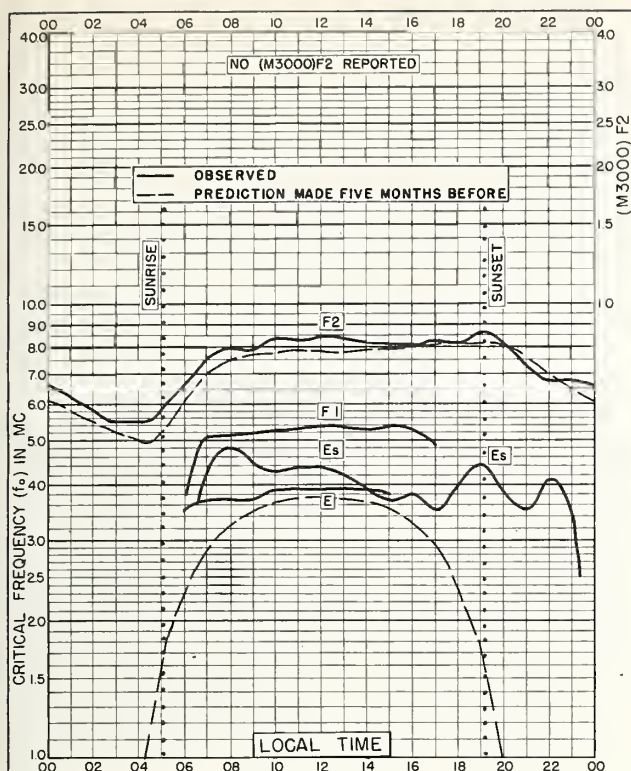


Fig. 5. GRAZ, AUSTRIA
47.1°N, 15.5°E

AUGUST 1956

NBS 503

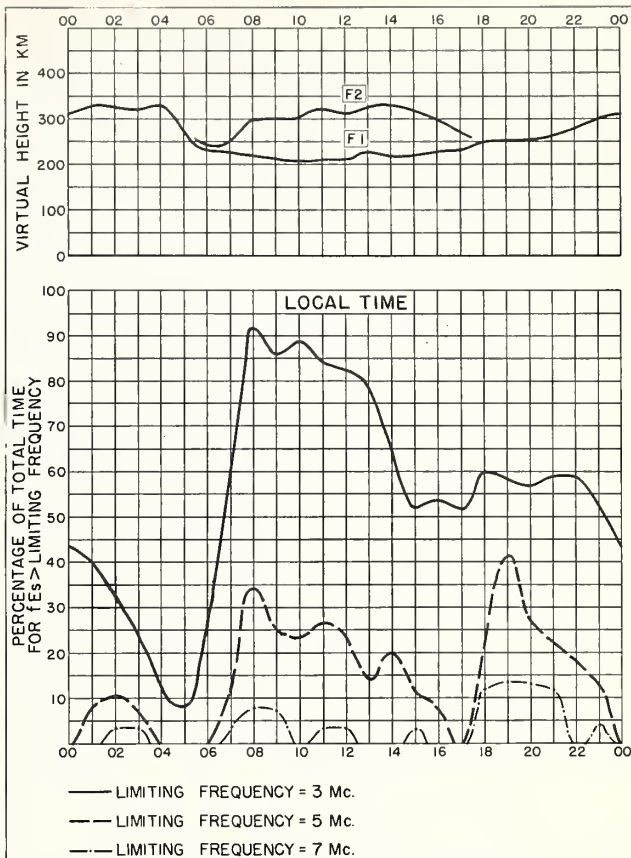


Fig. 6. GRAZ, AUSTRIA

AUGUST 1956

NBS 490

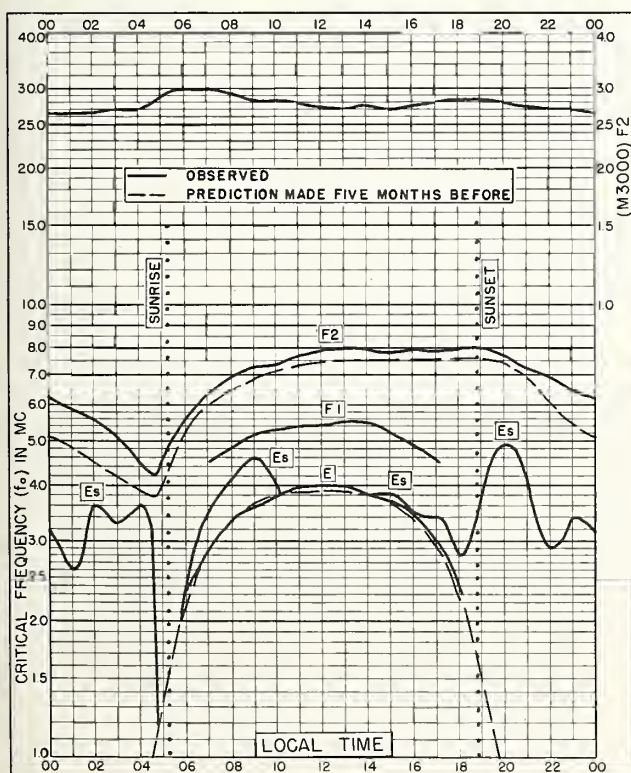


Fig. 7. FT. MONMOUTH, NEW JERSEY
40.3°N, 74.1°W

AUGUST 1956

NBS 503

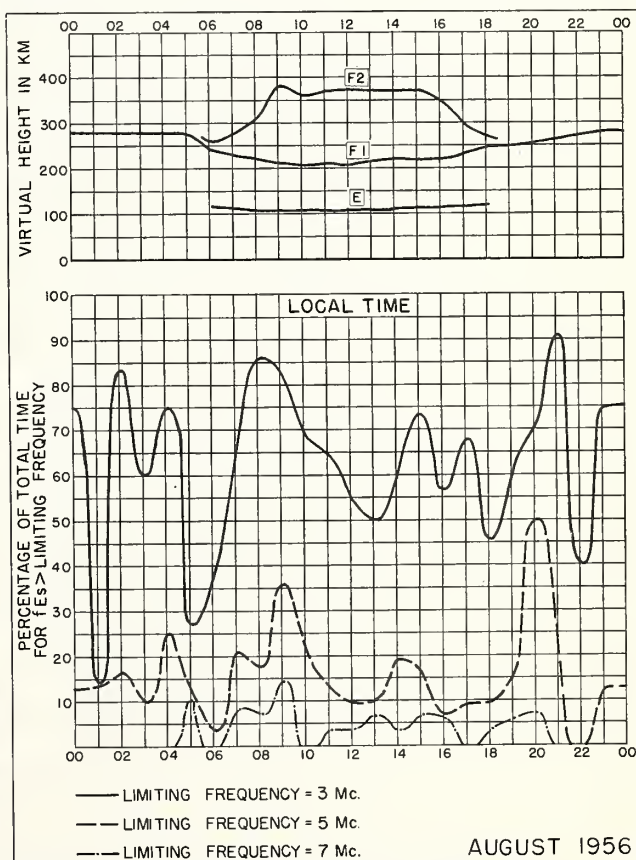
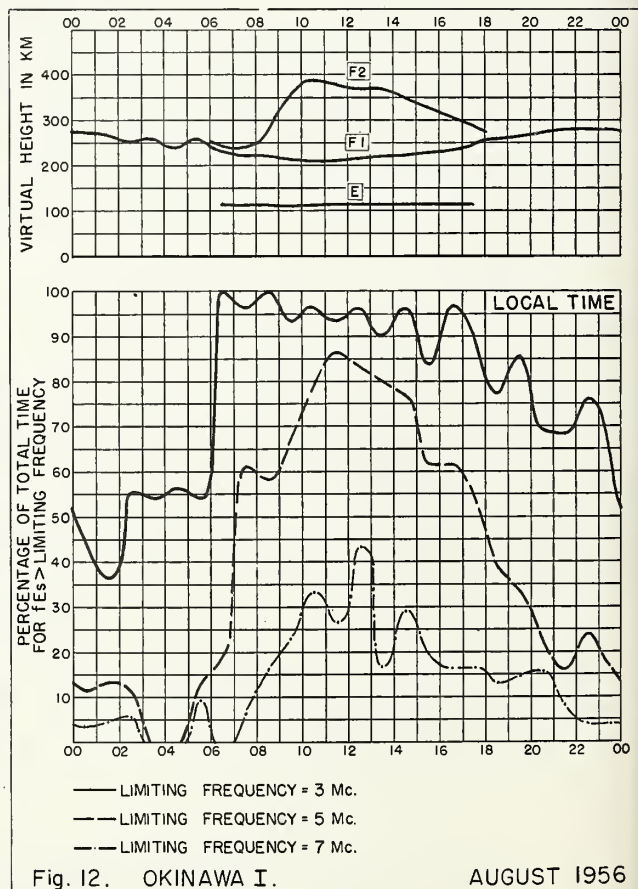
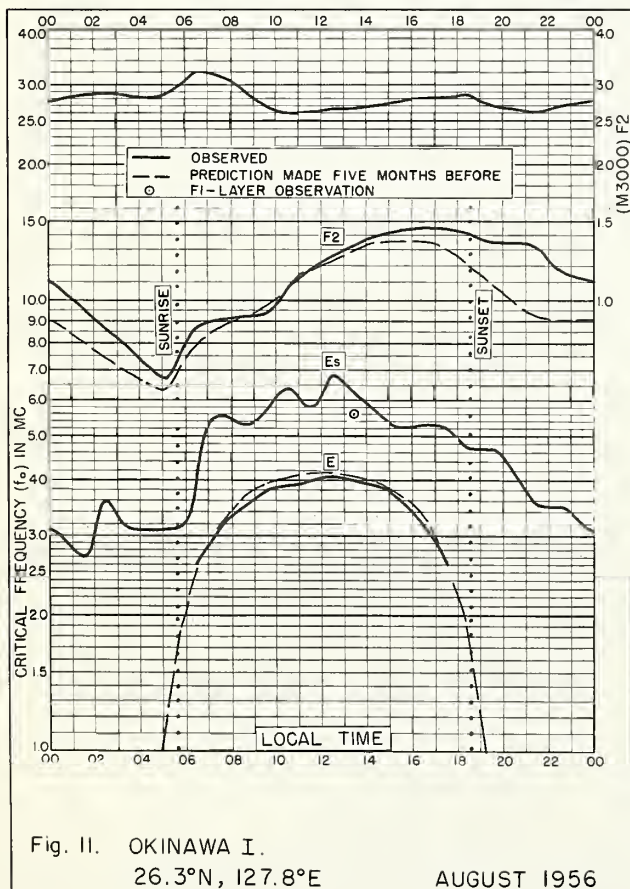
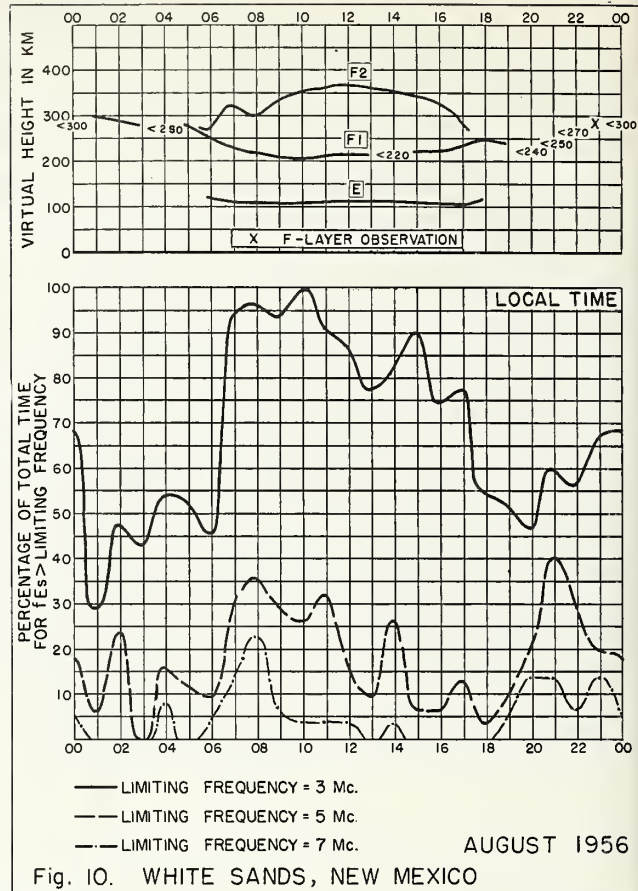
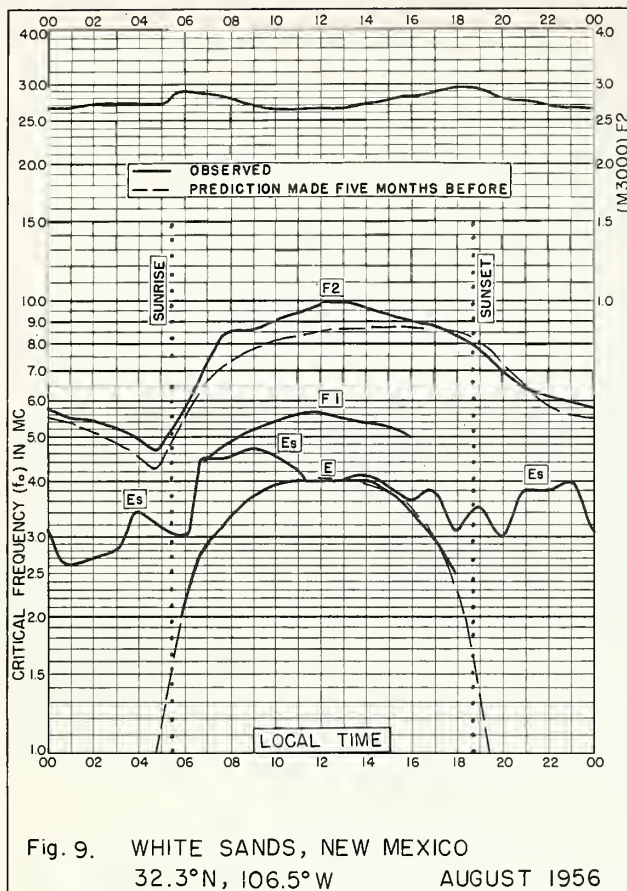


Fig. 8. FT. MONMOUTH, NEW JERSEY

AUGUST 1956

NBS 490

NBS 490



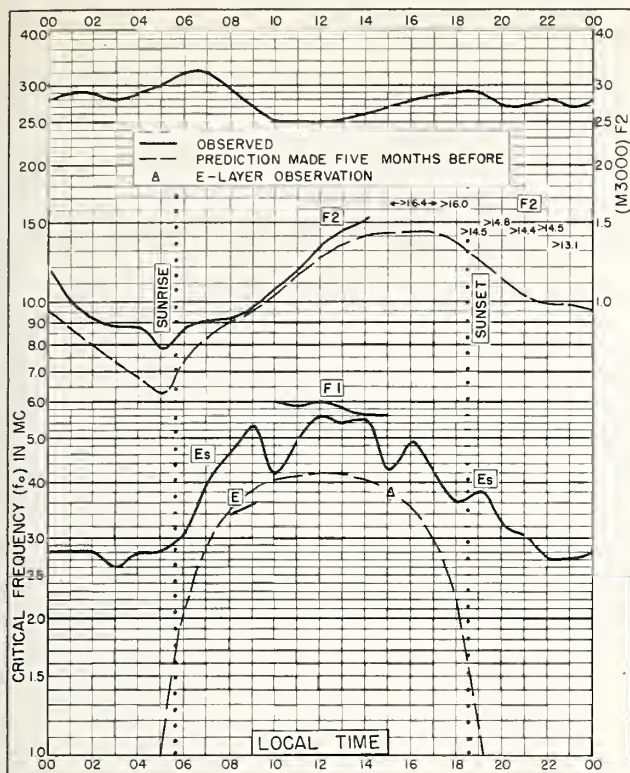


Fig. 13. FORMOSA, CHINA
25.0°N, 121.5°E

AUGUST 1956

NBS 503

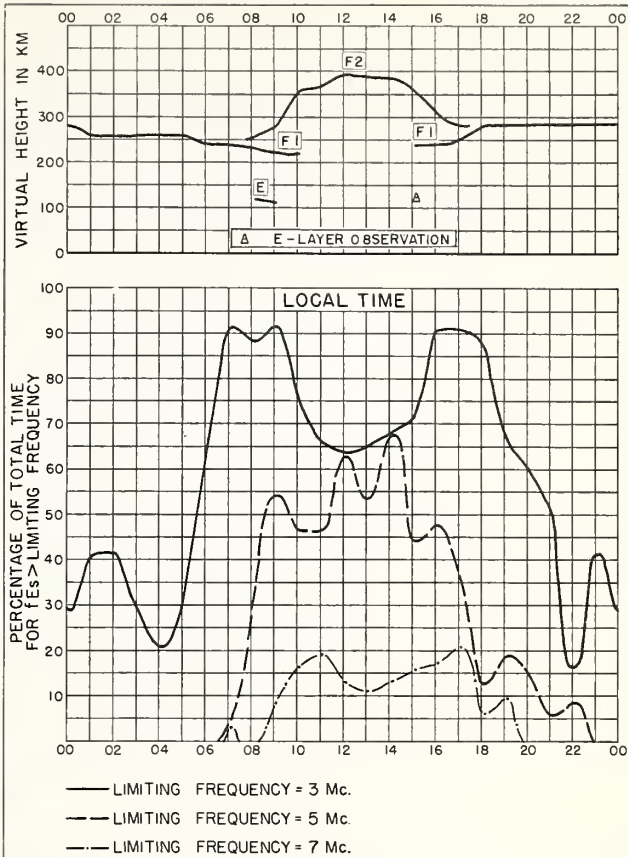


Fig. 14. FORMOSA, CHINA

AUGUST 1956

NBS 490

U. S. GOVERNMENT PRINTING OFFICE: 1957

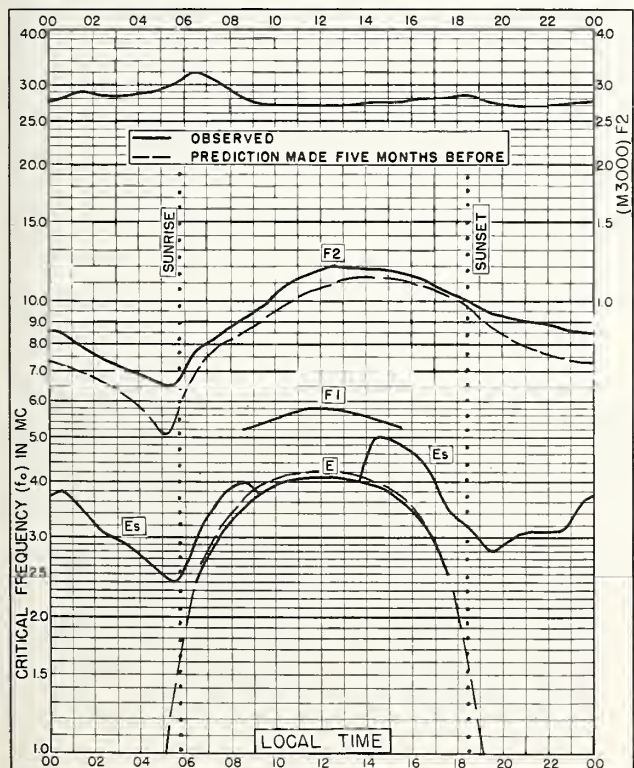


Fig. 15. PUERTO RICO, W. I.
18.5°N, 67.2°W

AUGUST 1956

NBS 503

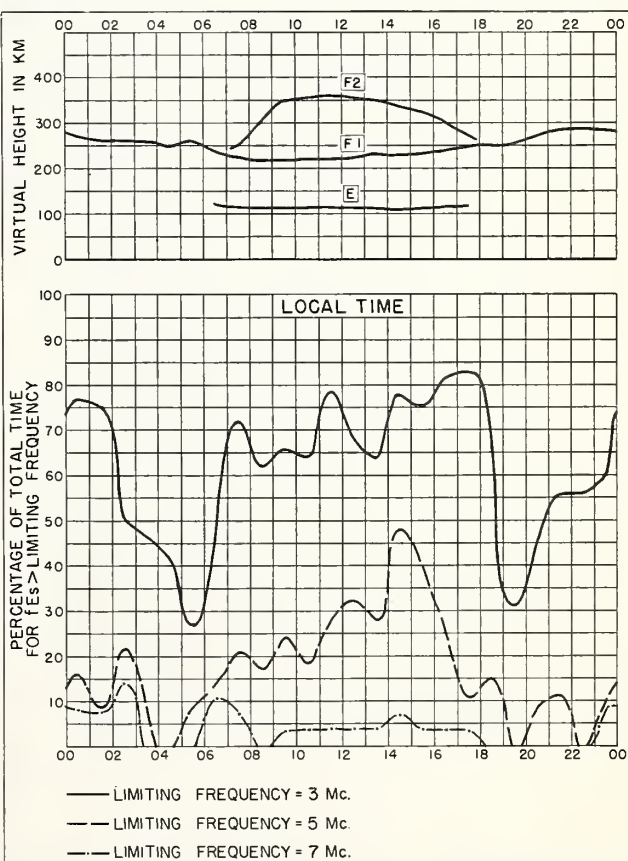


Fig. 16. PUERTO RICO, W. I.

AUGUST 1956

NBS 490

U. S. GOVERNMENT PRINTING OFFICE: 1957

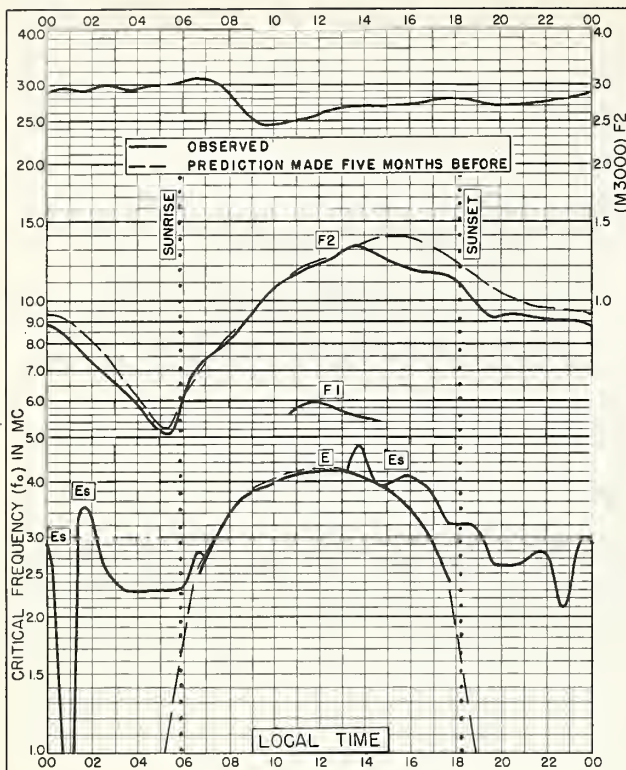


Fig. 17. PANAMA CANAL ZONE
9.4°N, 79.9°W

AUGUST 1956

NBS 503

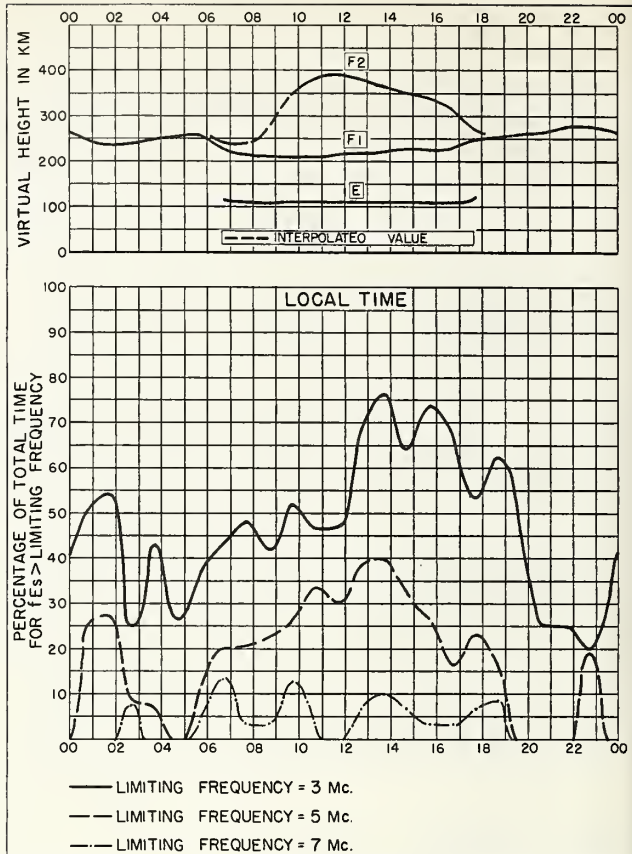


Fig. 18. PANAMA CANAL ZONE

AUGUST 1956

NBS 490

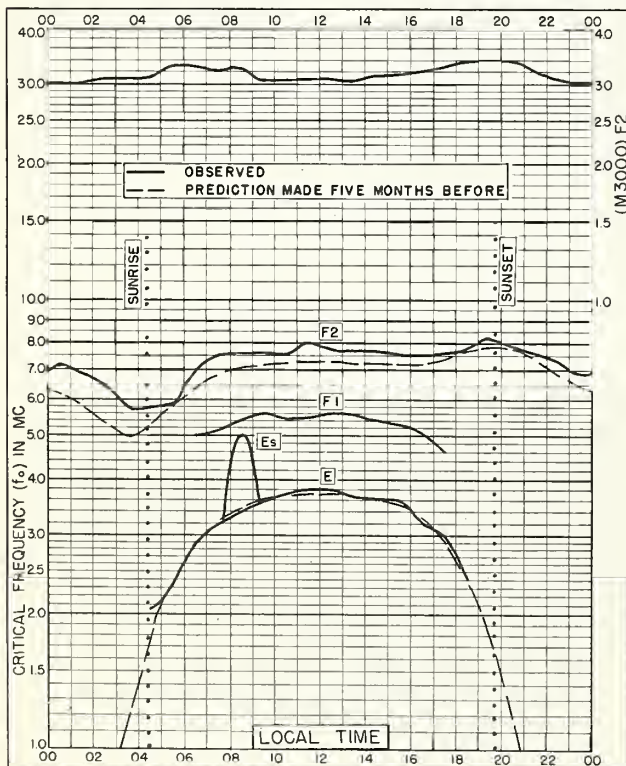


Fig. 19. SCHWARZENBURG, SWITZERLAND
46.8°N, 7.3°E

JULY 1956

NBS 503

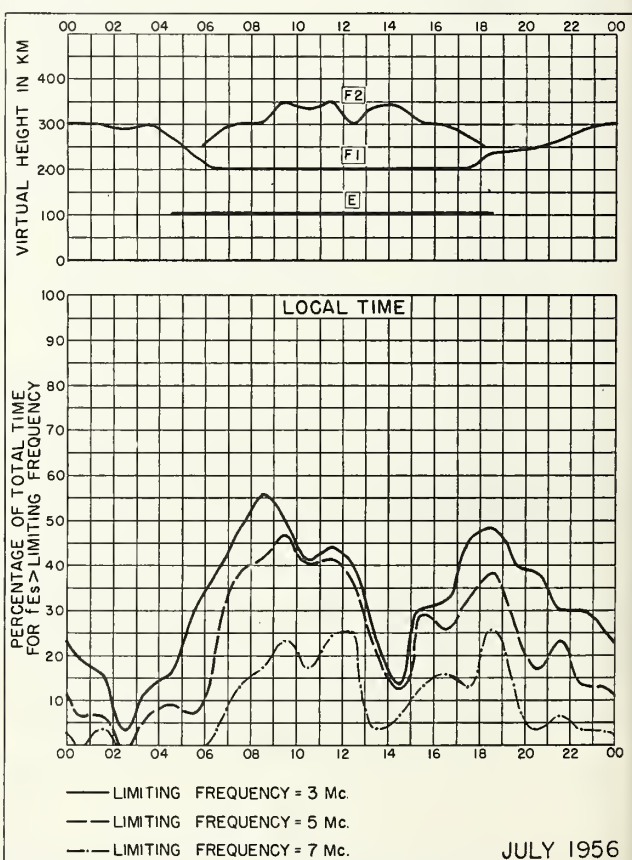


Fig. 20. SCHWARZENBURG, SWITZERLAND

JULY 1956

NBS 490

N. S. INTERNATIONAL RELATION OFFICE 51377

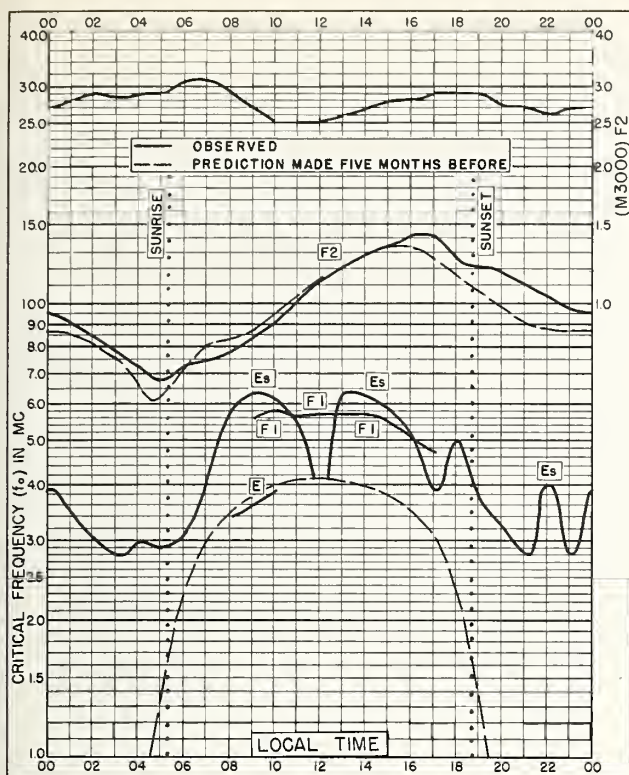
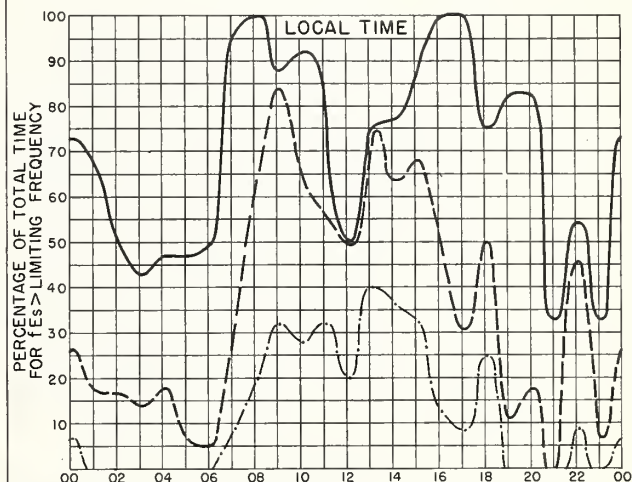
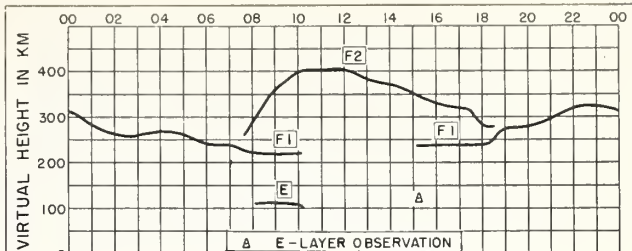


Fig. 21. FORMOSA, CHINA
25.0°N, 121.5°E

JULY 1956

NBS 503



— LIMITING FREQUENCY = 3 Mc.
- - - LIMITING FREQUENCY = 5 Mc.
- · - · - LIMITING FREQUENCY = 7 Mc.

Fig. 22. FORMOSA, CHINA

JULY 1956

NBS 490

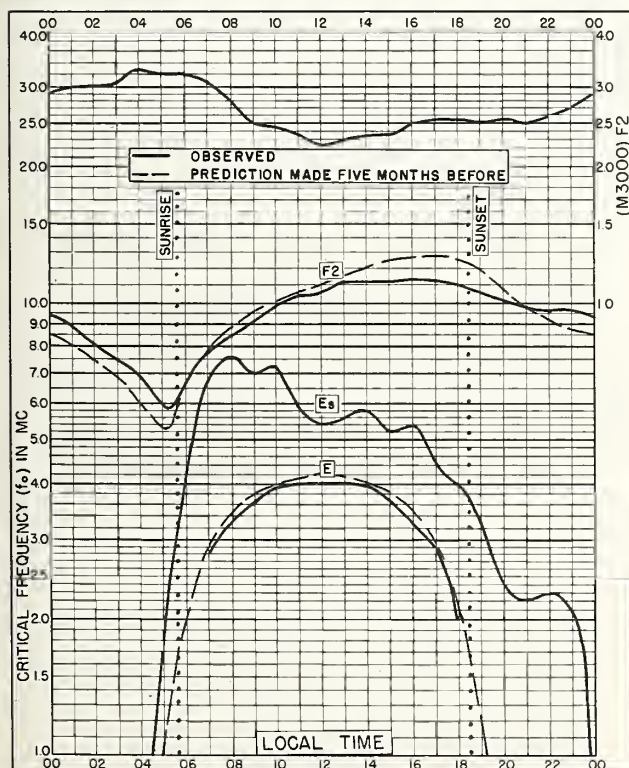
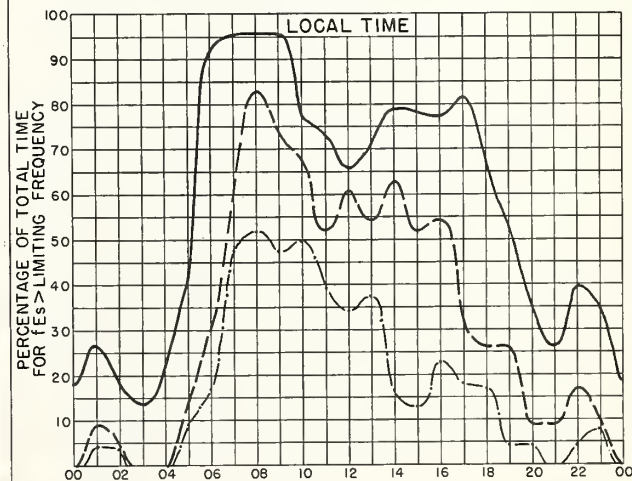
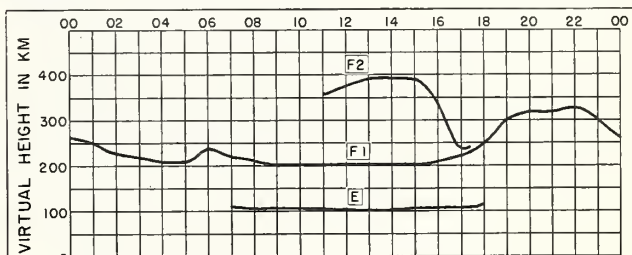


Fig. 23. BAGUIO, P. I.
16.4°N, 120.6°E

JULY 1956

NBS 503



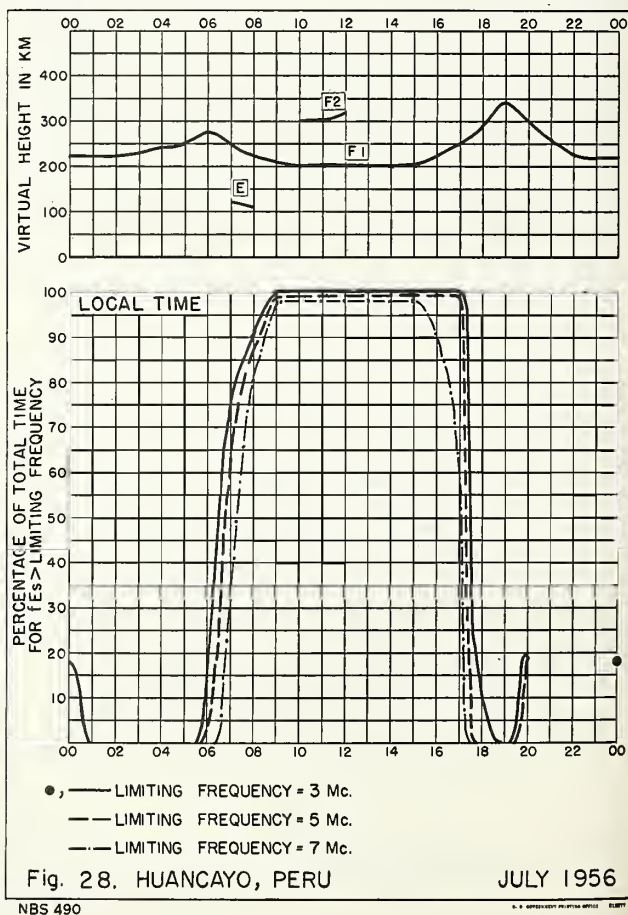
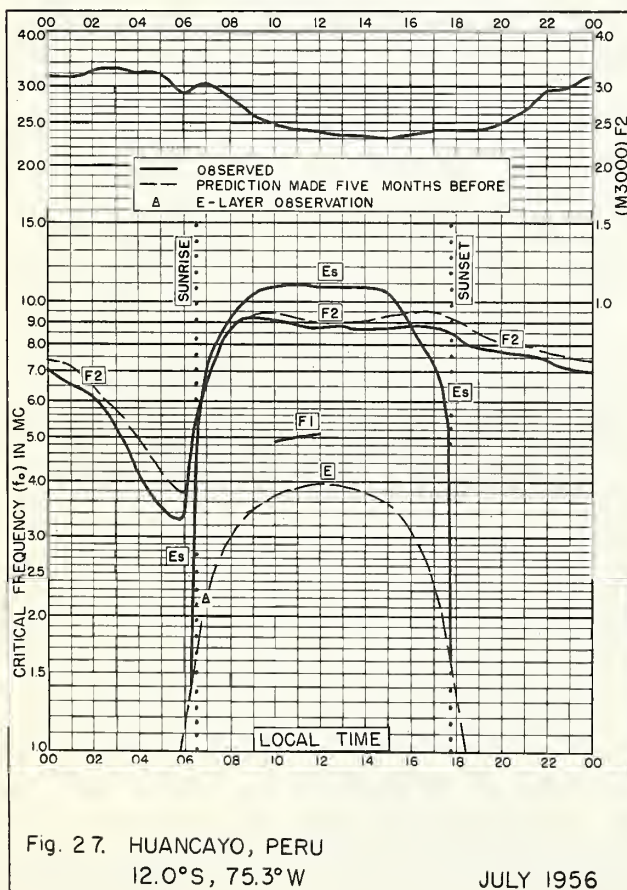
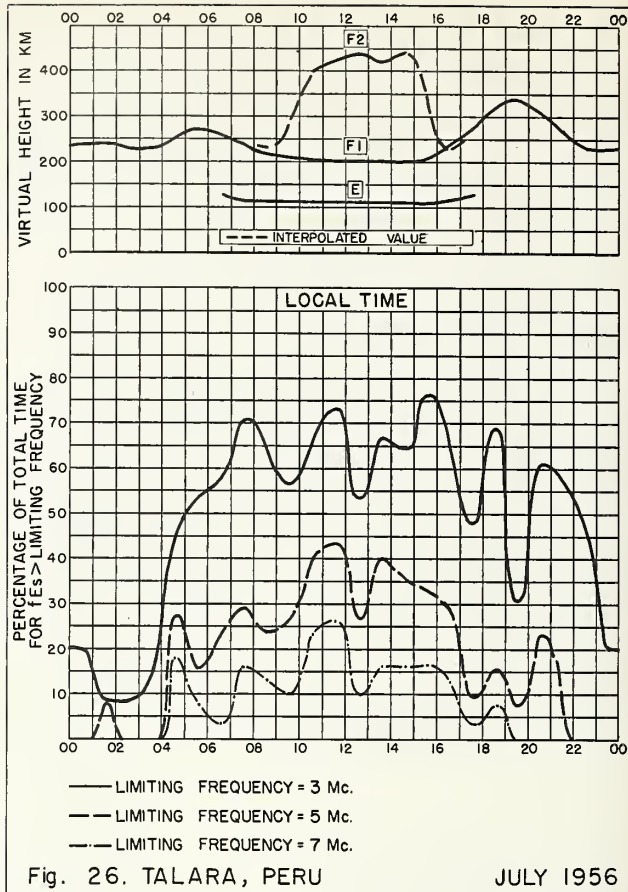
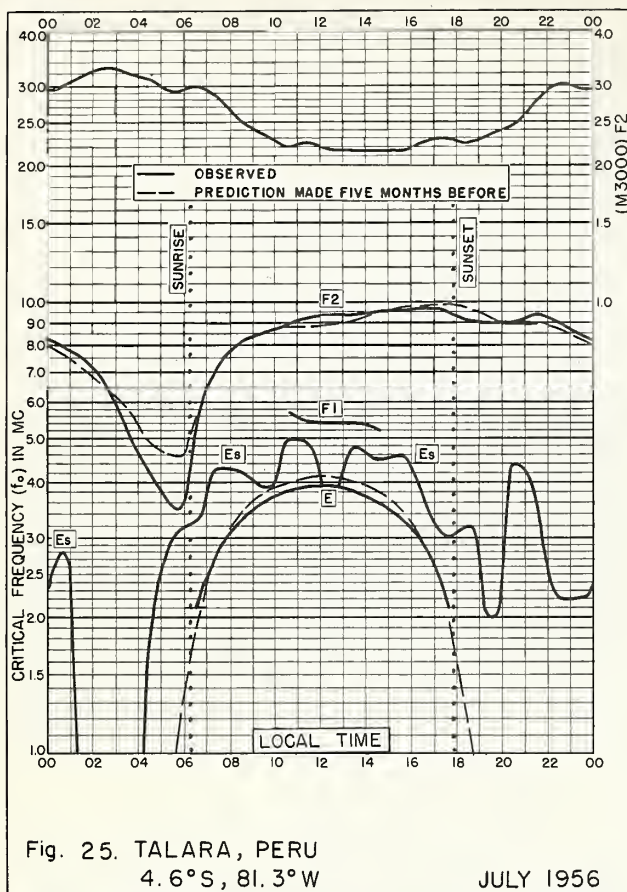
— LIMITING FREQUENCY = 3 Mc.
- - - LIMITING FREQUENCY = 5 Mc.
- · - · - LIMITING FREQUENCY = 7 Mc.

Fig. 24. BAGUIO, P. I.

JULY 1956

NBS 490

NBS 490



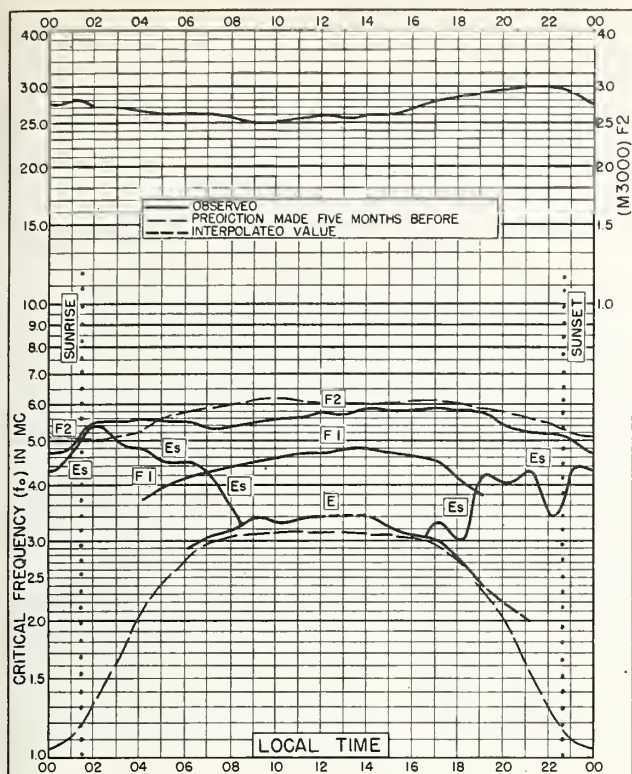


Fig. 29. FAIRBANKS, ALASKA
64.9°N, 147.8°W

JUNE 1956

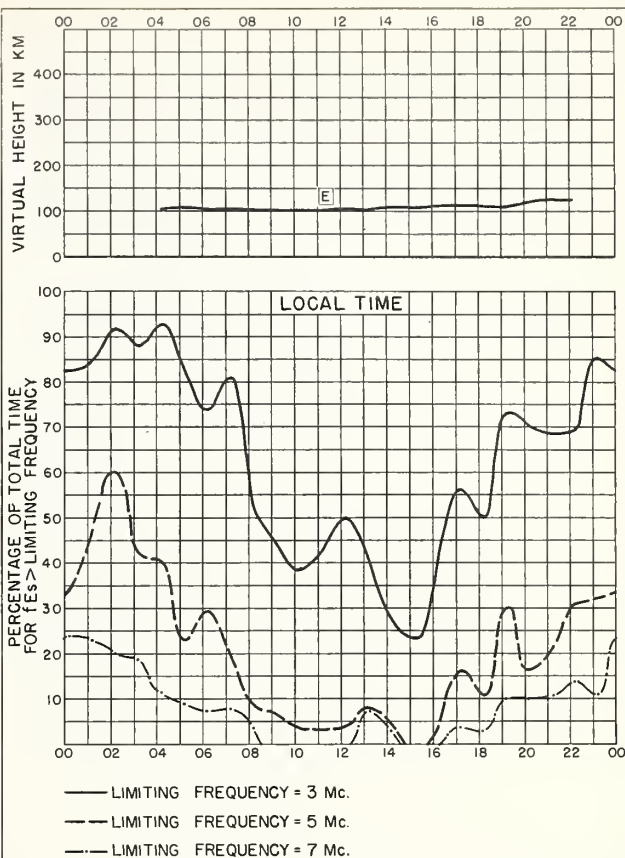


Fig. 30. FAIRBANKS, ALASKA

JUNE 1956

NBS 490

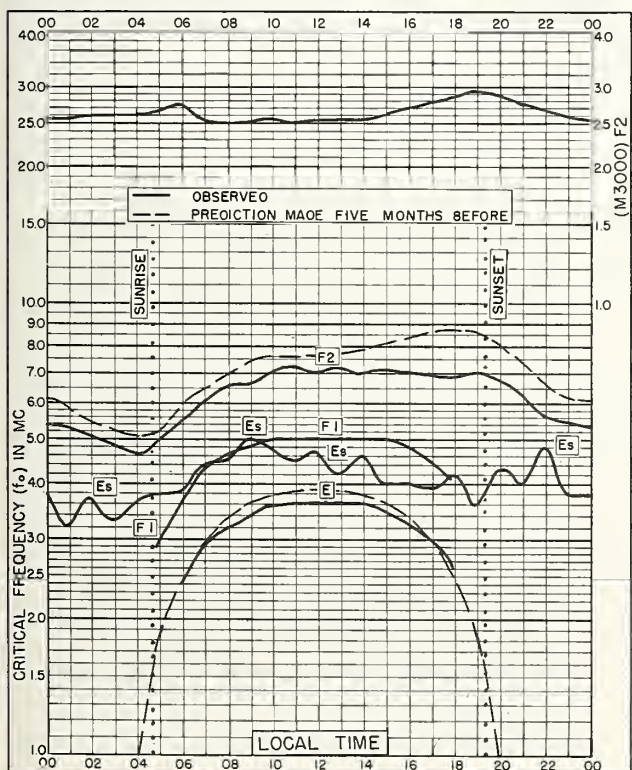


Fig. 31. SAN FRANCISCO, CALIFORNIA
37.4°N, 122.2°W

JUNE 1956

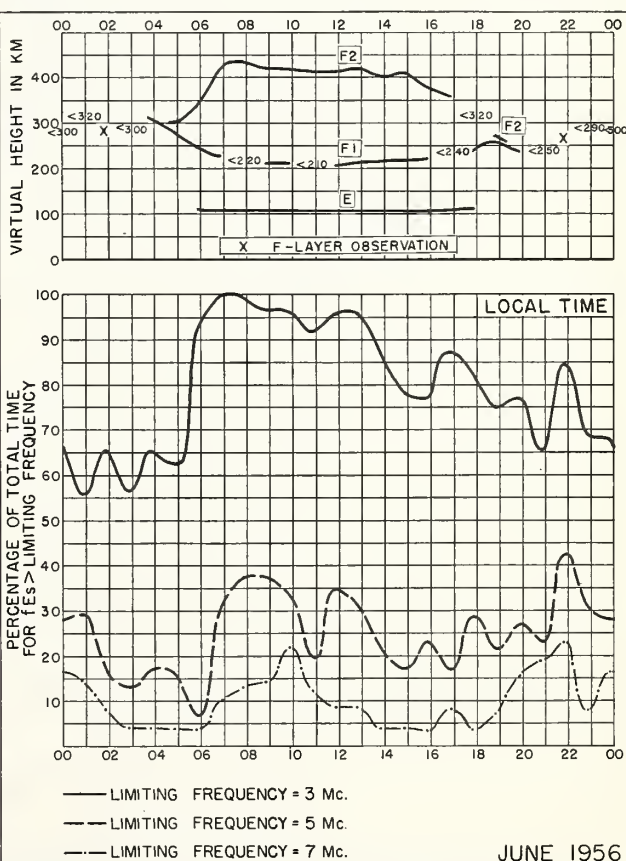
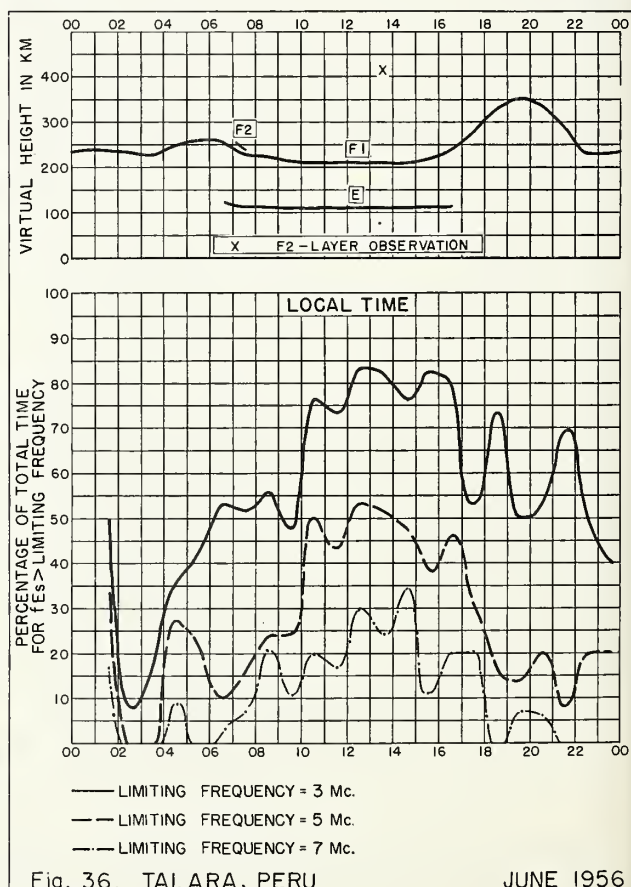
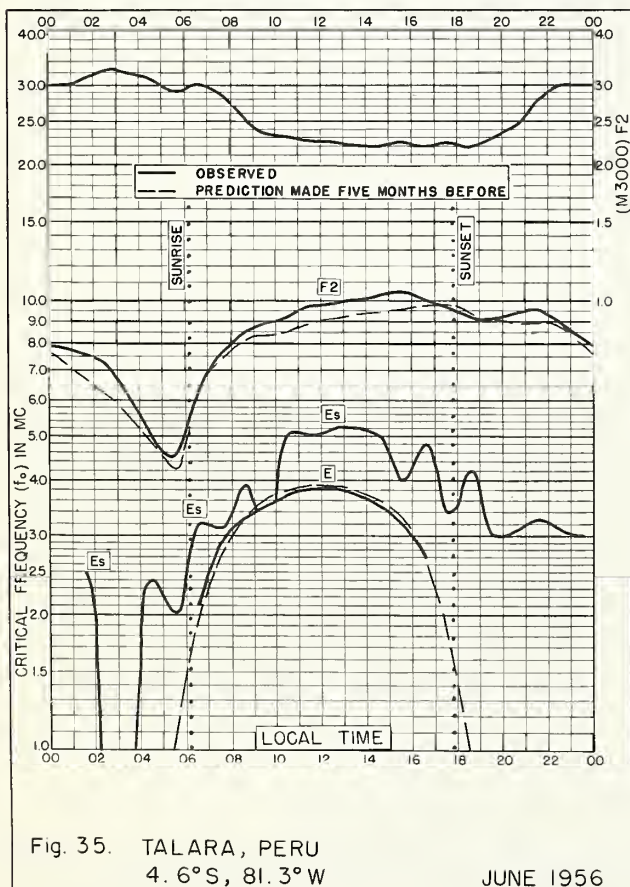
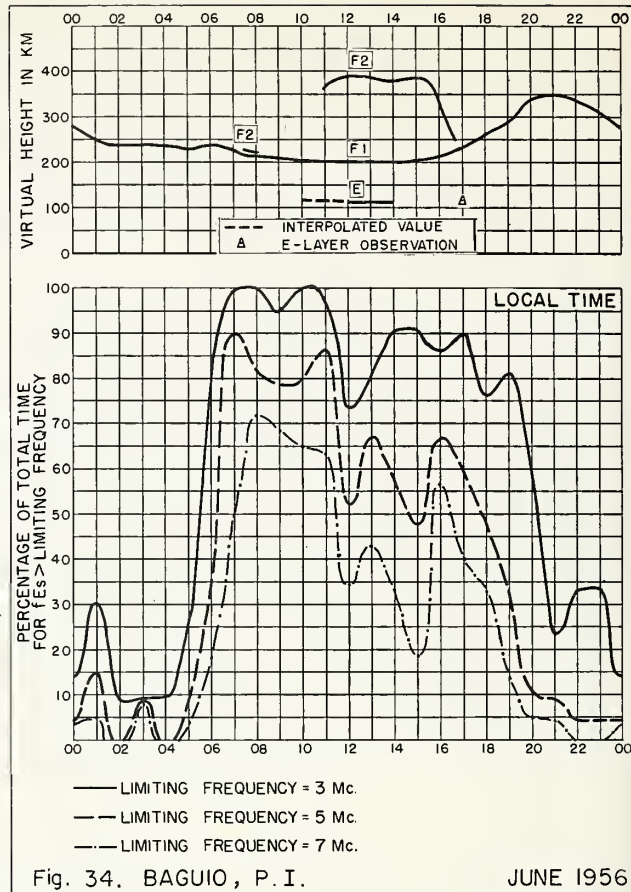
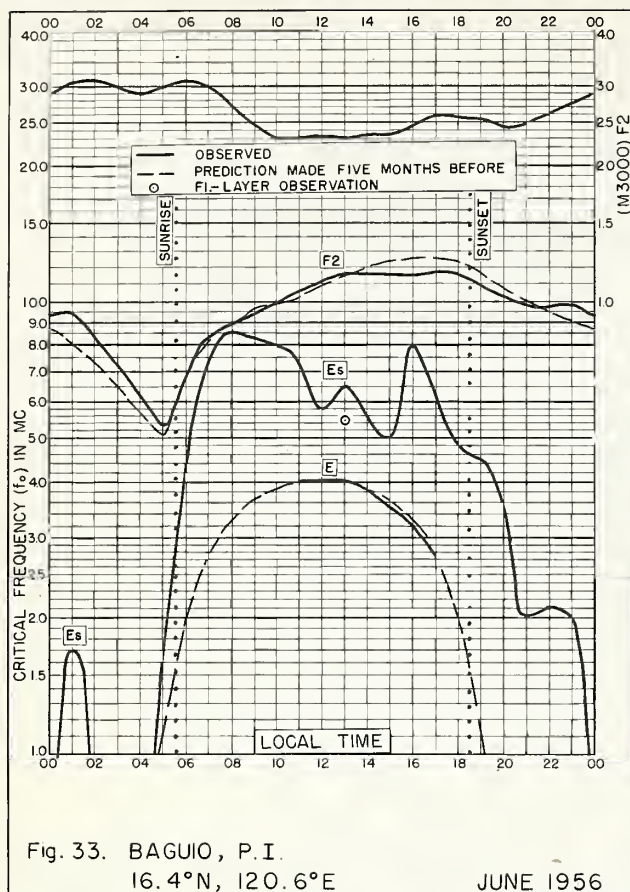


Fig. 32. SAN FRANCISCO, CALIFORNIA

JUNE 1956

NBS 490



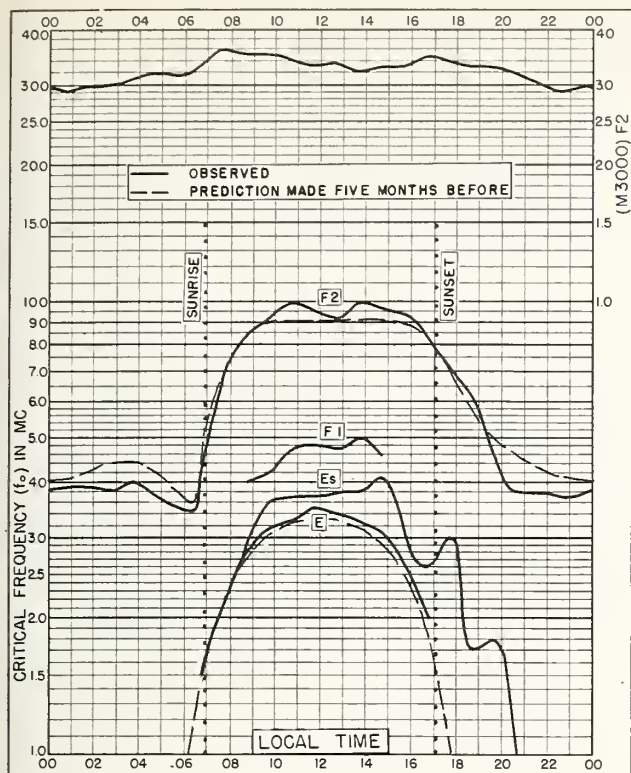


Fig. 37. WATHEROO, W. AUSTRALIA
30.3°S, 115.9°E

JUNE 1956

NBS 503

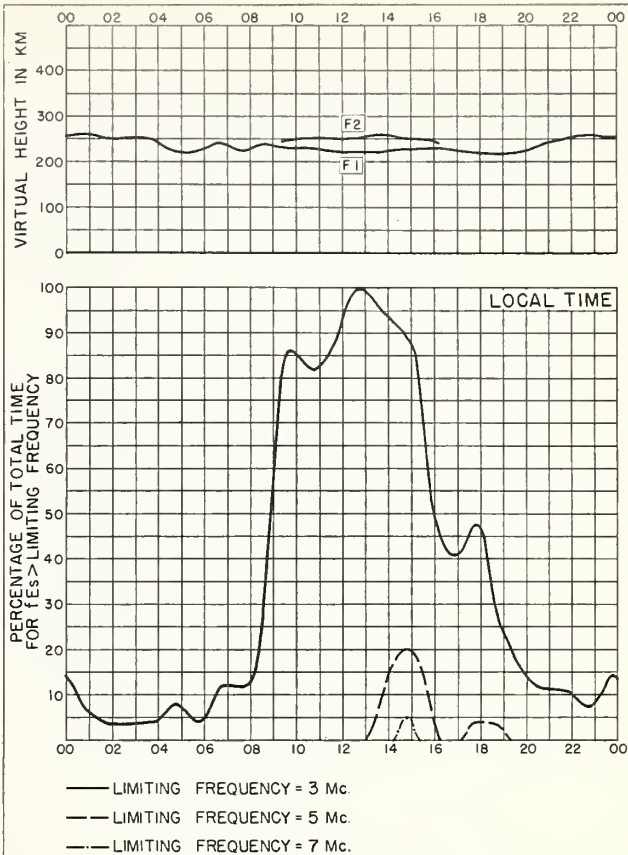


Fig. 38. WATHEROO, W. AUSTRALIA

JUNE 1956

NBS 490

U. S. GOVERNMENT PRINTING OFFICE: 1957

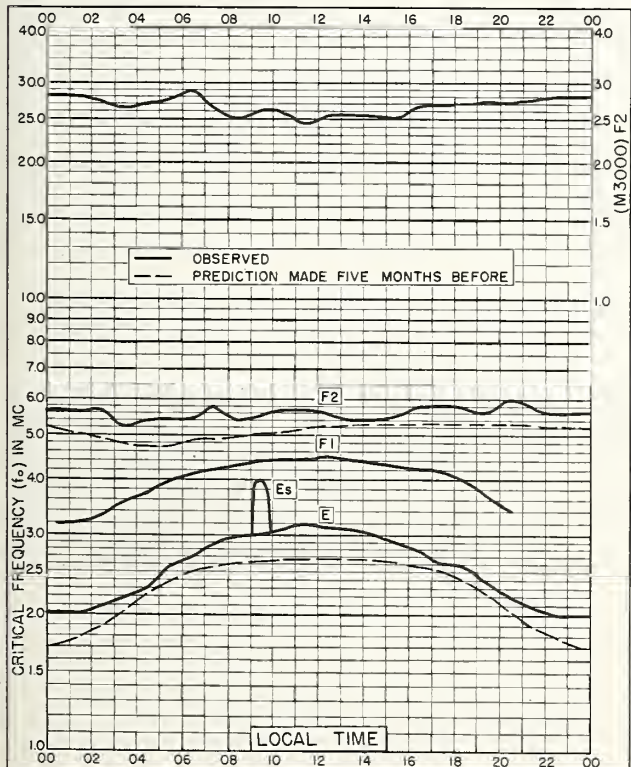


Fig. 39. THULE, GREENLAND
77.0°N, 69.0°W

MAY 1956

NBS 503

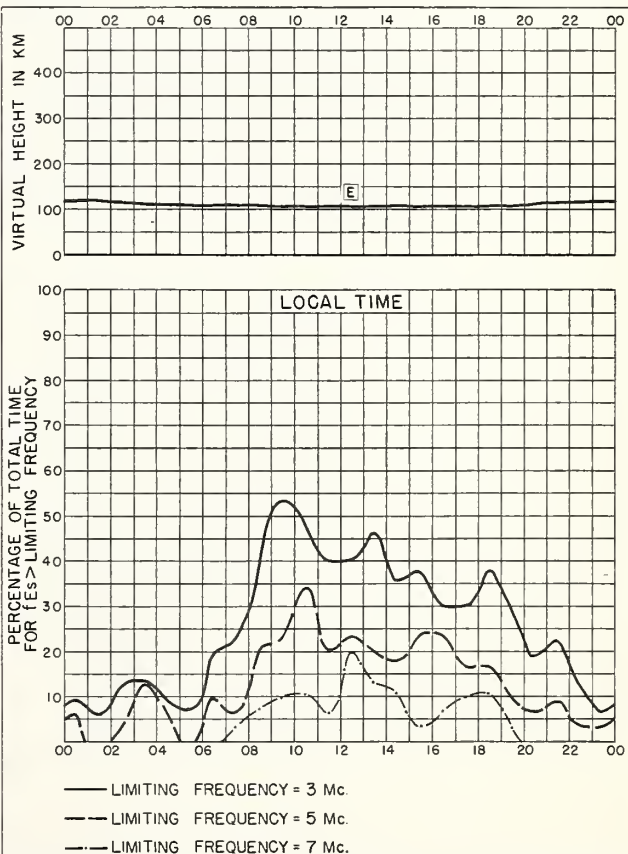


Fig. 40. THULE, GREENLAND

MAY 1956

NBS 490

U. S. GOVERNMENT PRINTING OFFICE: 1957

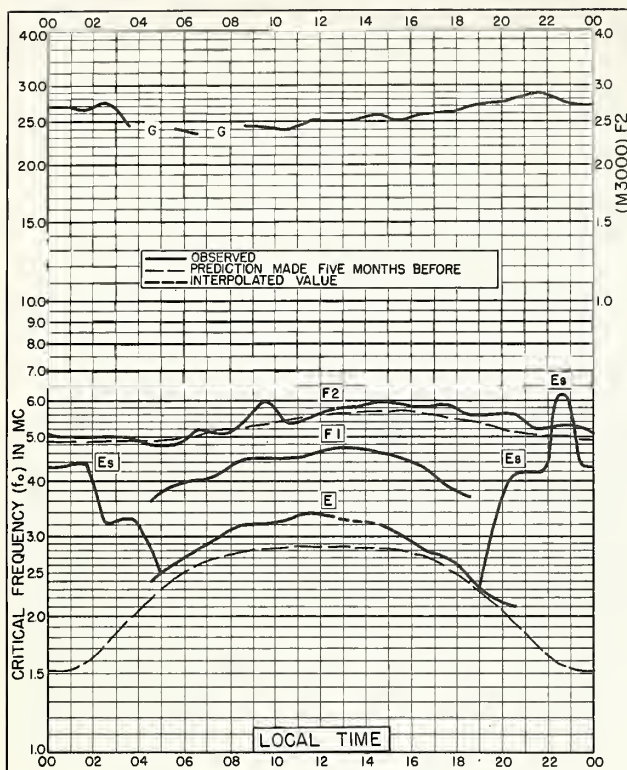


Fig. 41. POINT BARROW, ALASKA
71.3°N, 156.8°W

MAY 1956

NBS 503

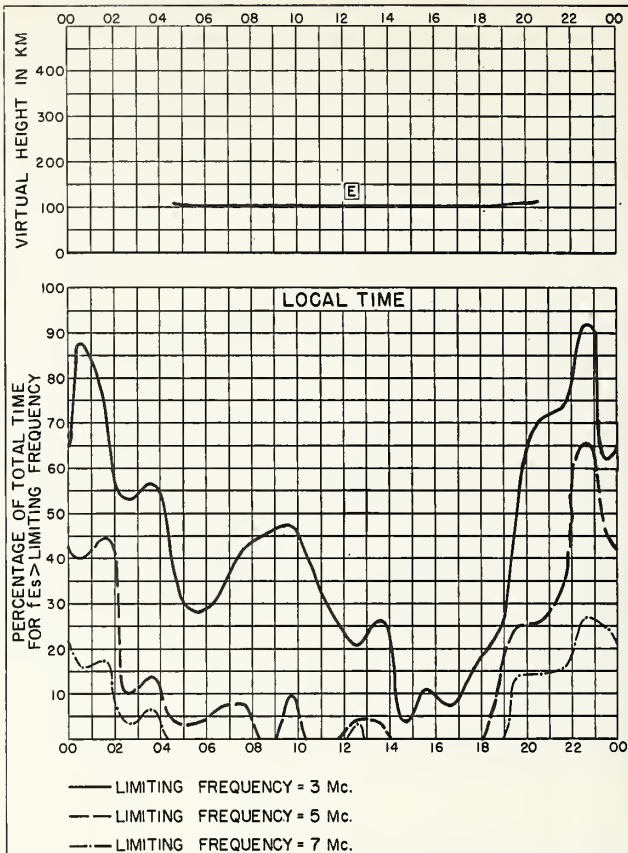


Fig. 42. POINT BARROW, ALASKA

MAY 1956

NBS 490

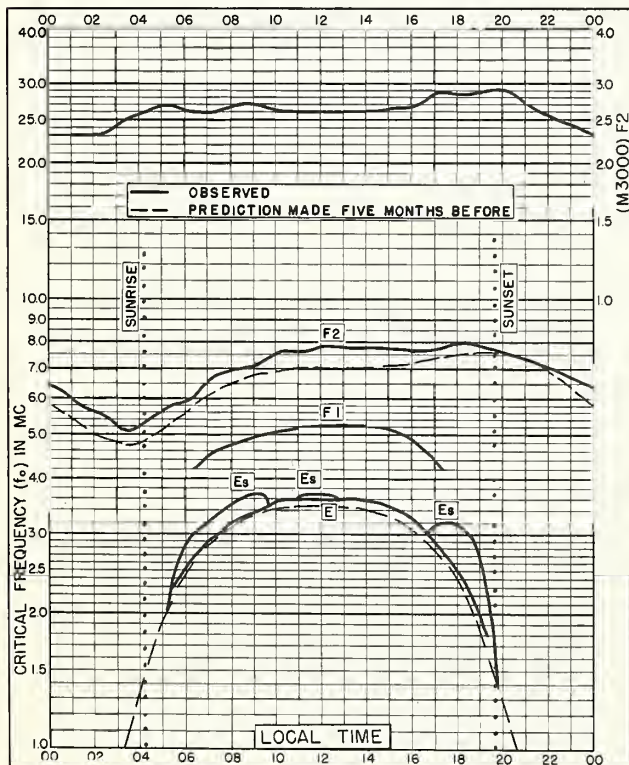


Fig. 43. De BILT, HOLLAND
52.1°N, 5.2°E

MAY 1956

NBS 503

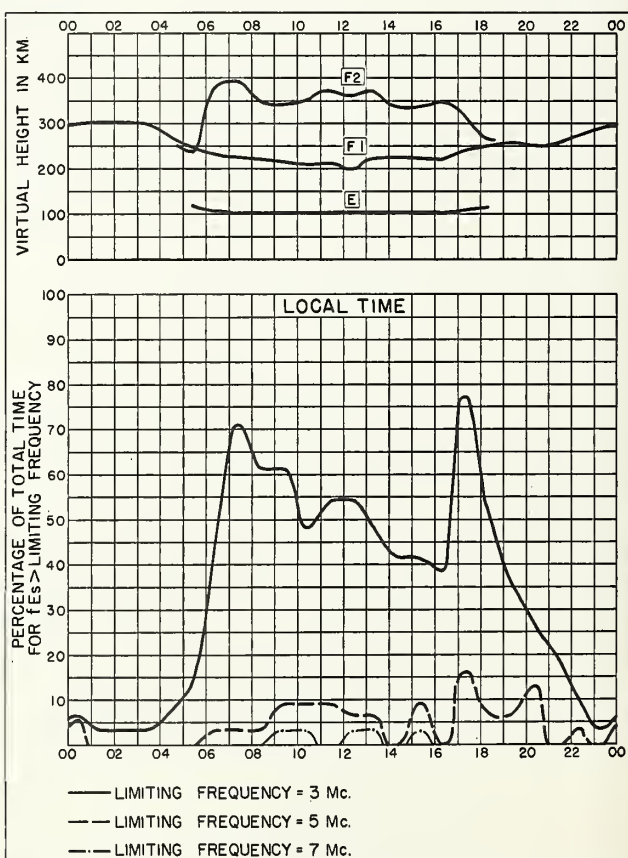


Fig. 44. De BILT, HOLLAND

MAY 1956

NBS 490

NBS 490

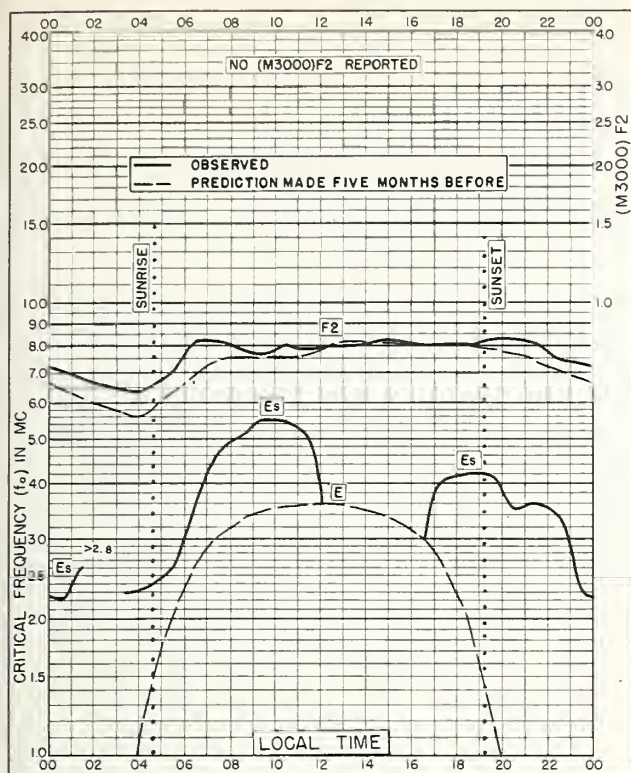


Fig. 45. WAKKANAI, JAPAN
45.4°N, 141.7°E

MAY 1956

NBS 503

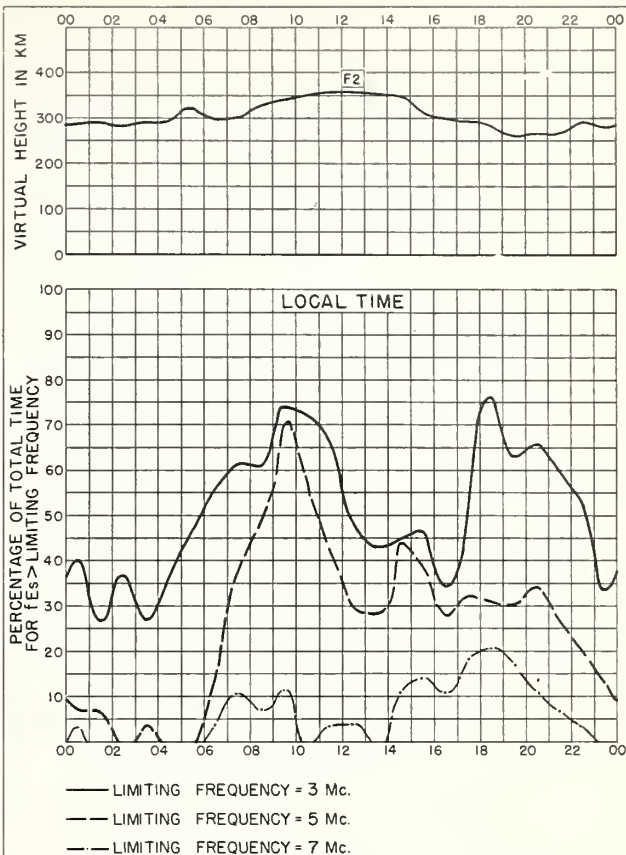


Fig. 46. WAKKANAI, JAPAN

MAY 1956

NBS 490

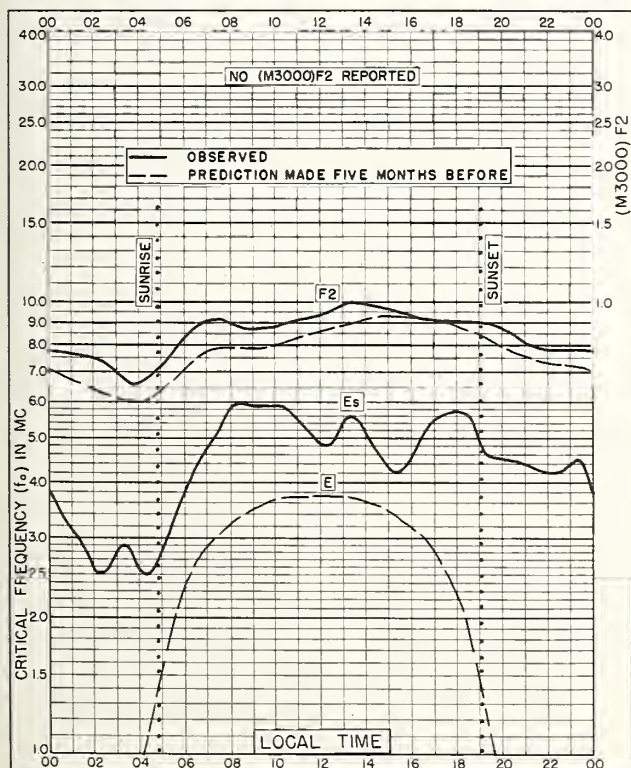


Fig. 47. AKITA, JAPAN
39.7°N, 140.1°E

MAY 1956

NBS 503

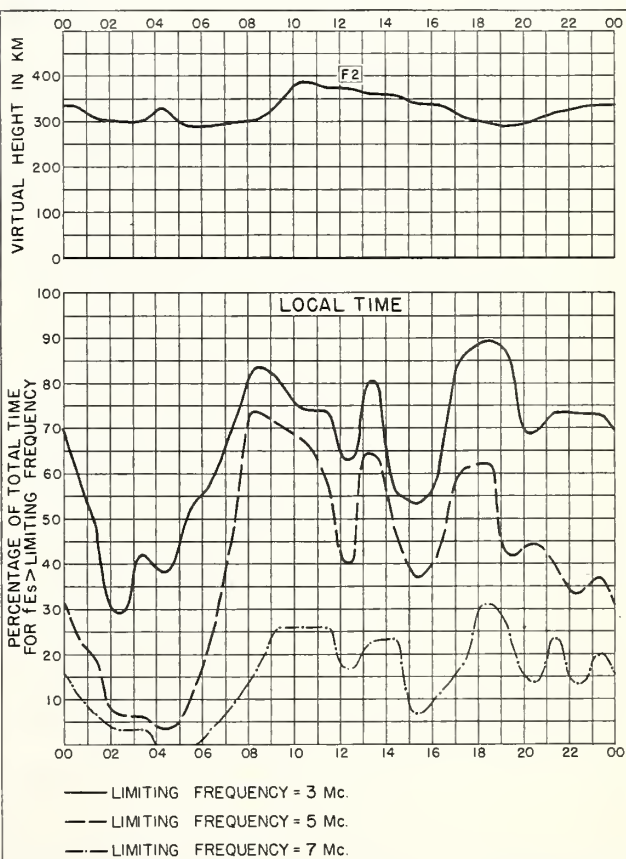
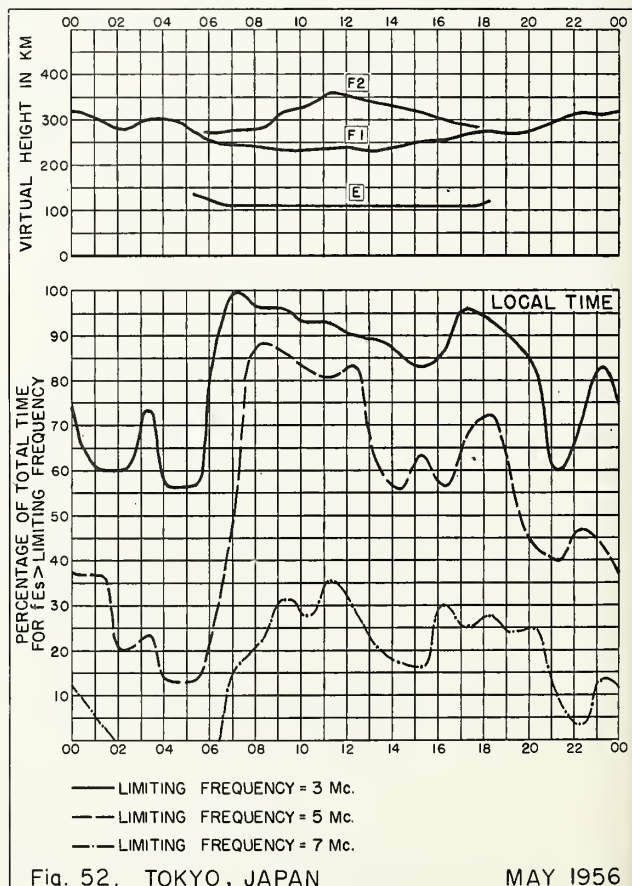
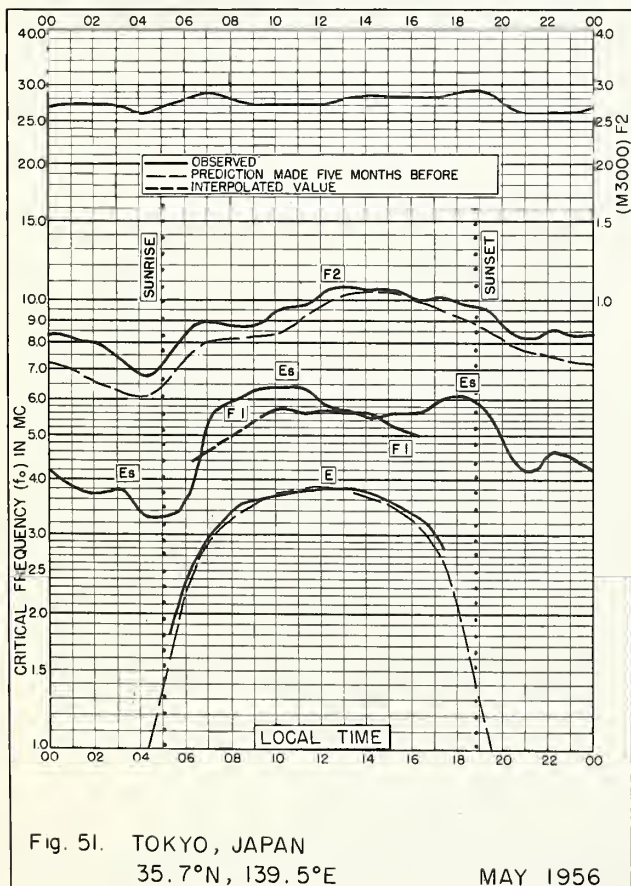
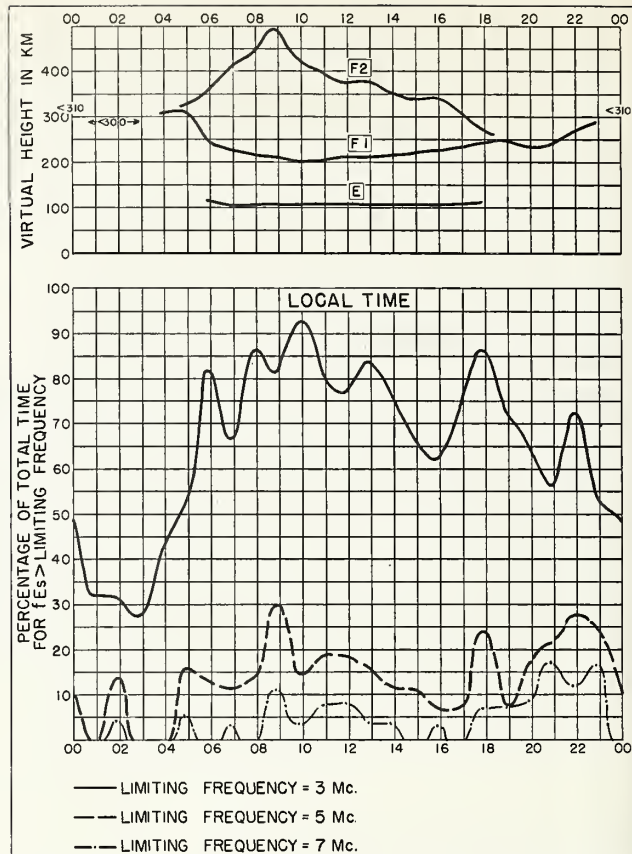
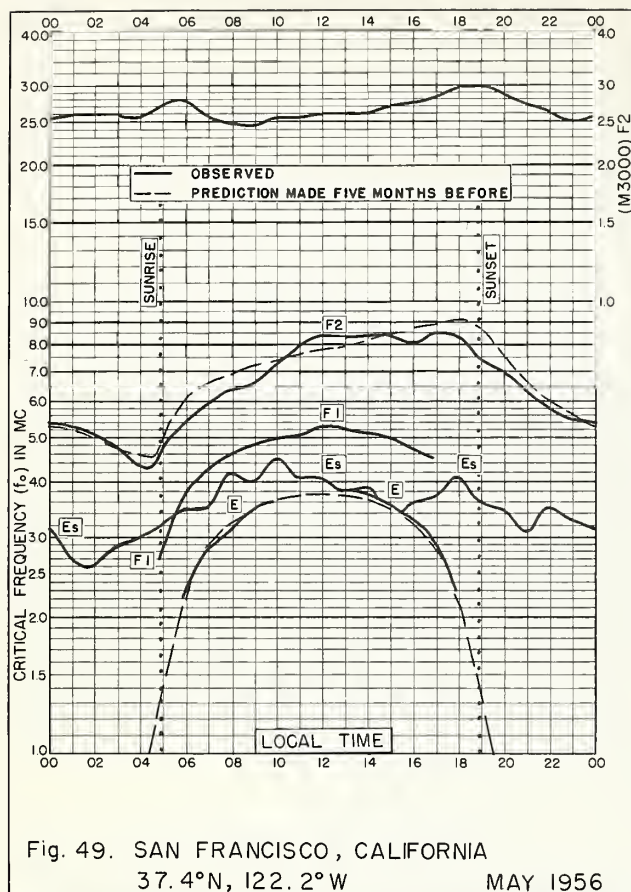


Fig. 48. AKITA, JAPAN

MAY 1956

NBS 490

N. A. G. INTERNATIONAL OFFICE 31027



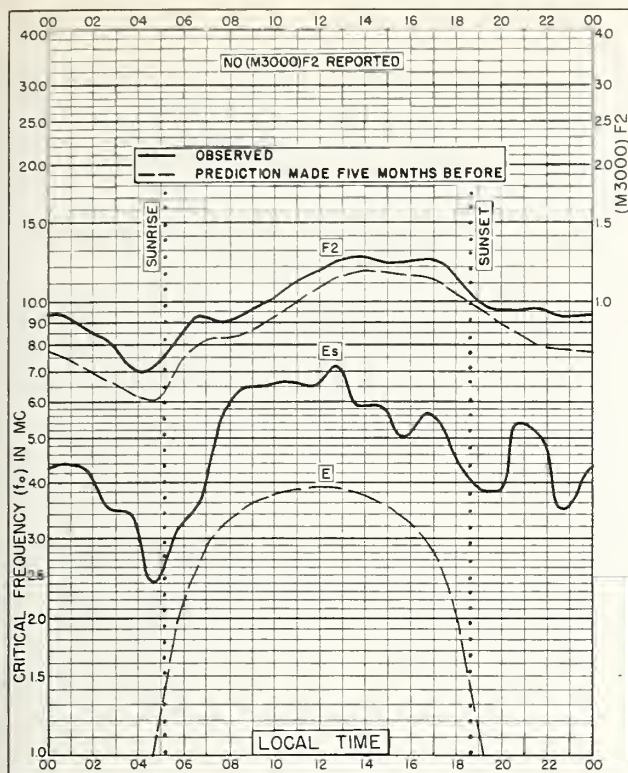


Fig. 53. YAMAGAWA, JAPAN
31.2°N, 130.6°E

MAY 1956

NBS 503

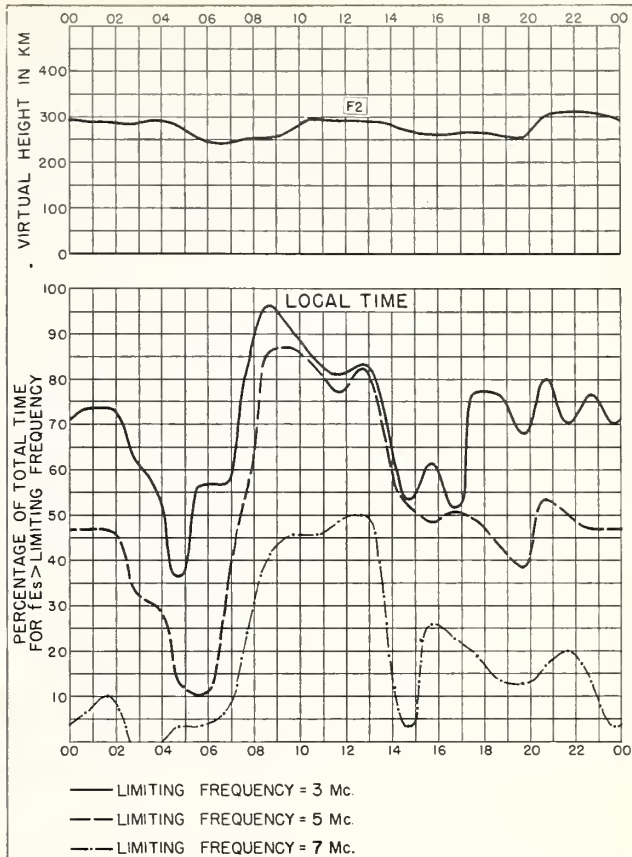


Fig. 54. YAMAGAWA, JAPAN

MAY 1956

NBS 490

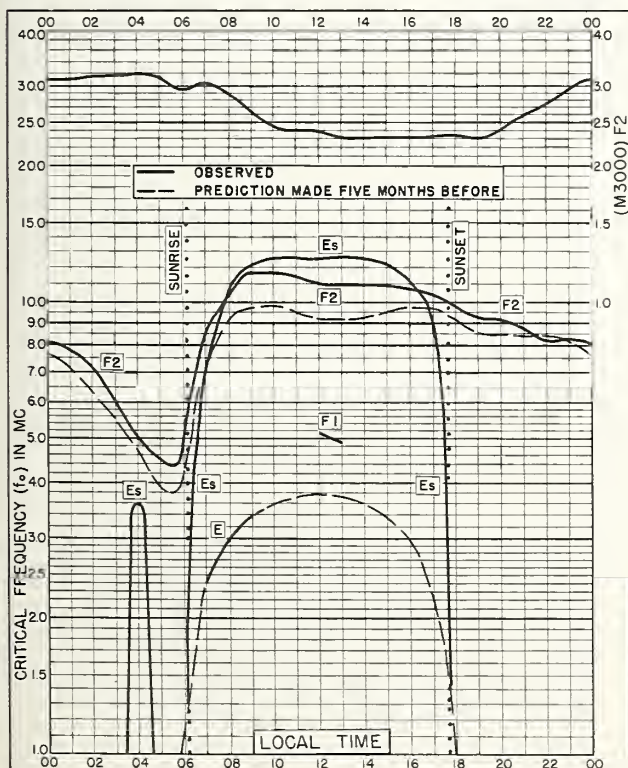


Fig. 55. HUANCAYO, PERU
12.0°S, 75.3°W

MAY 1956

NBS 503

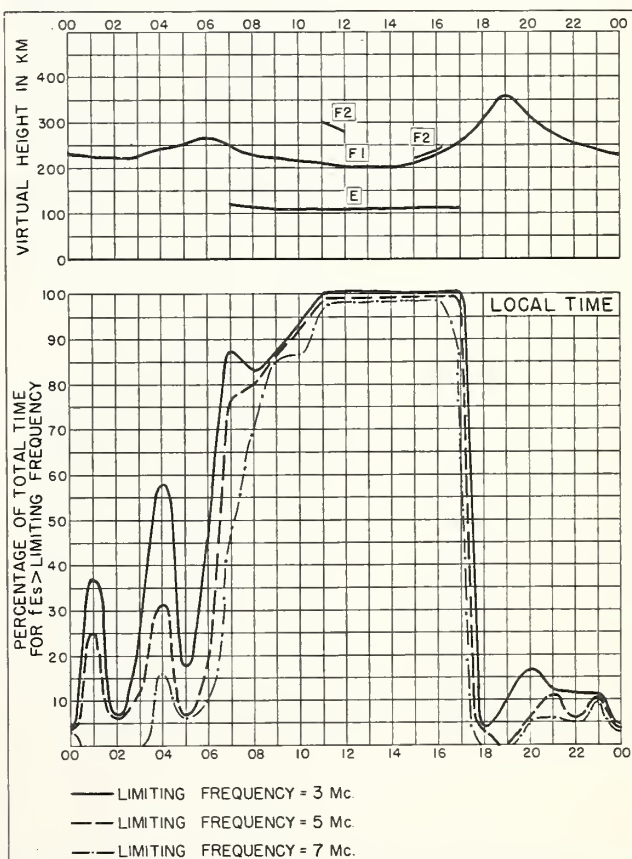


Fig. 56. HUANCAYO, PERU

MAY 1956

NBS 490

NBS 490

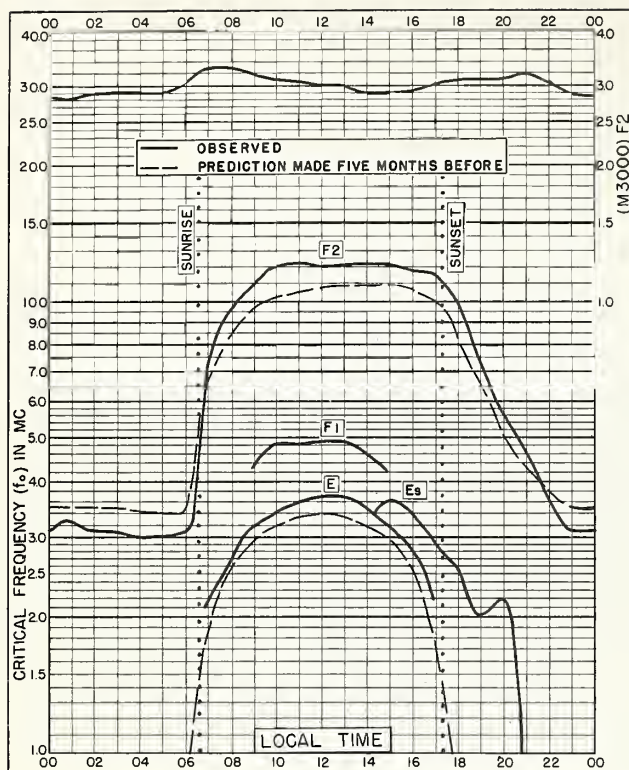


Fig. 57. JOHANNESBURG, UNION OF S. AFRICA
26.2°S, 28.1°E
MAY 1956

NBS 503

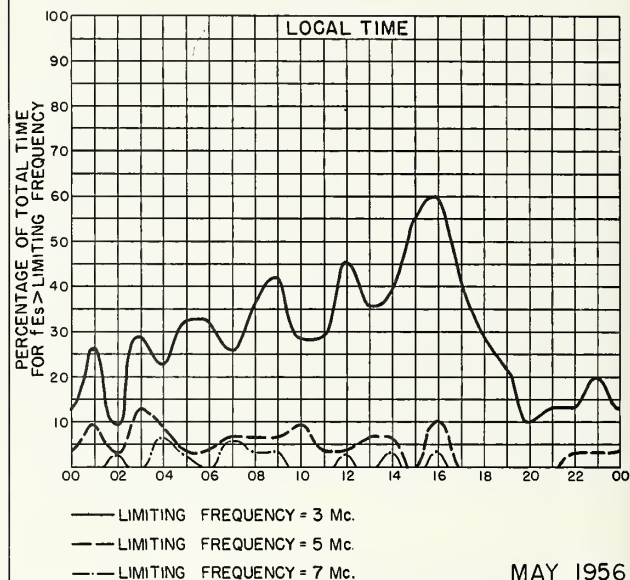
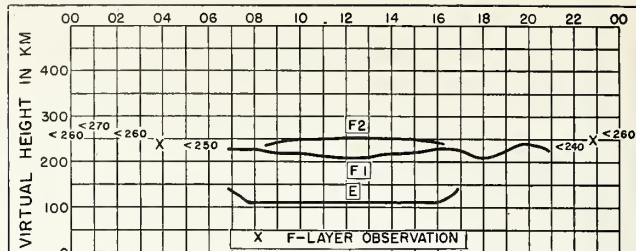


Fig. 58. JOHANNESBURG, UNION OF S. AFRICA
MAY 1956

NBS 490

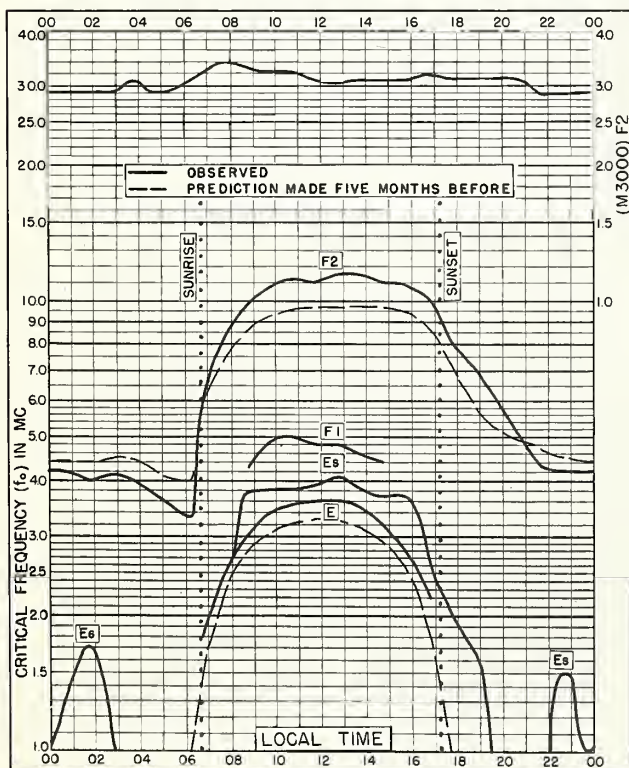


Fig. 59. WATHEROO, W. AUSTRALIA
30.3°S, 115.9°E
MAY 1956

NBS 503

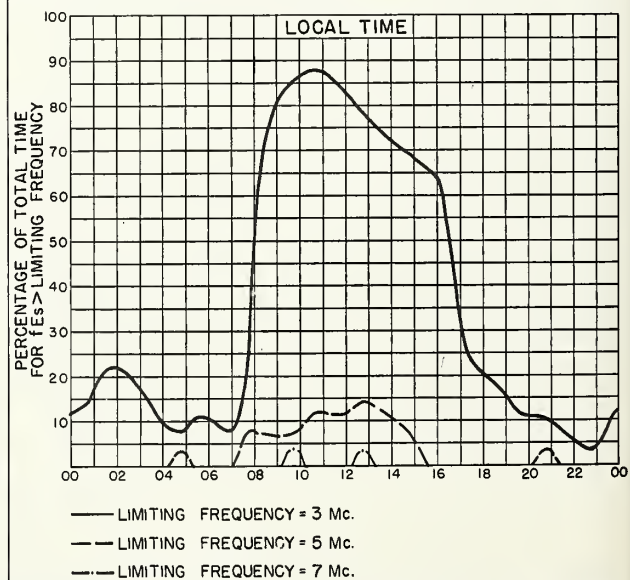
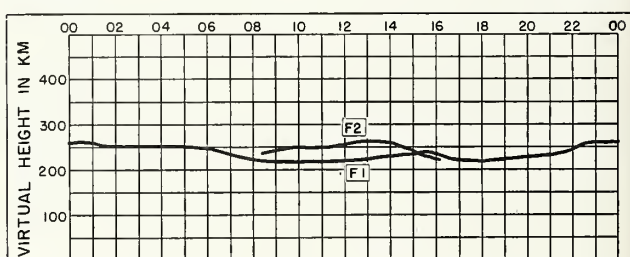
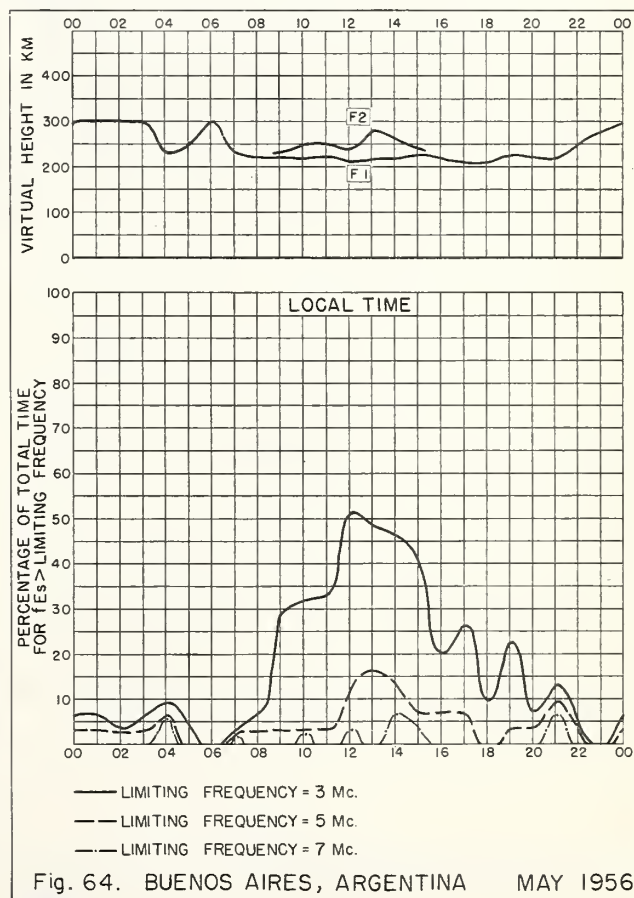
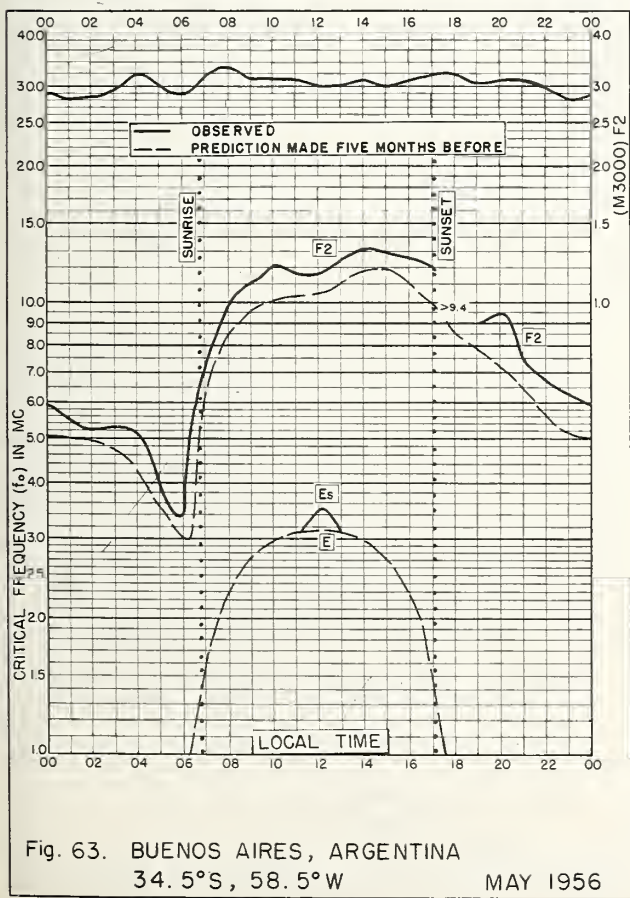
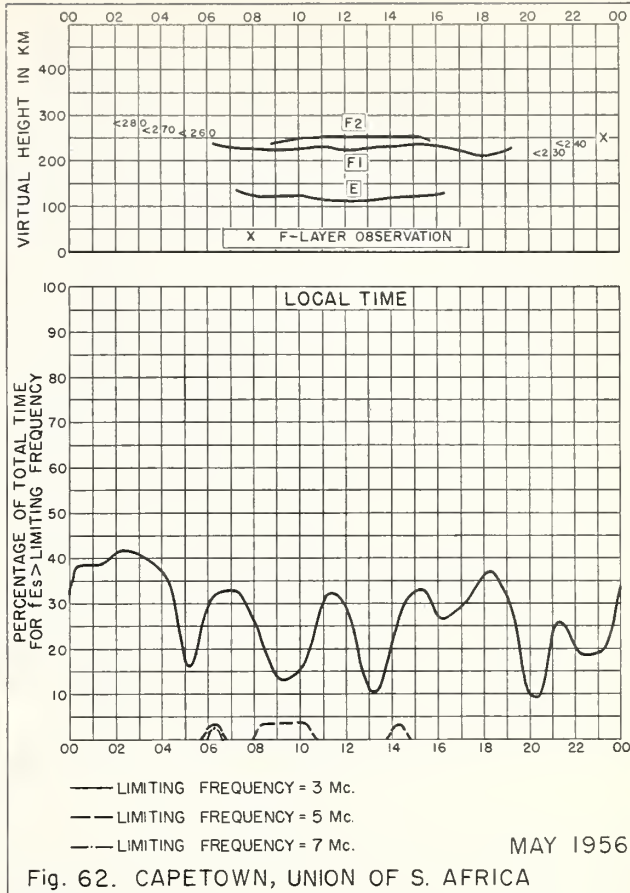
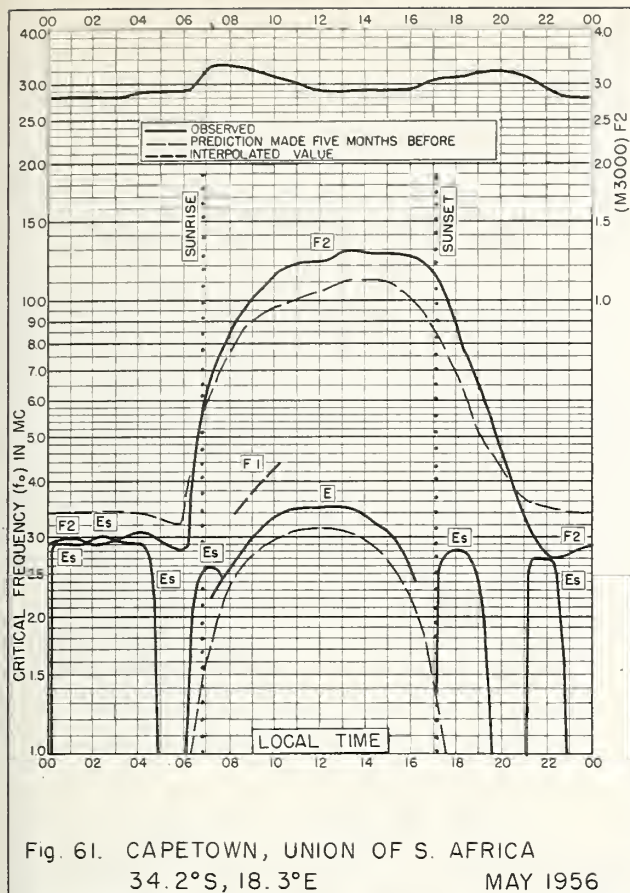


Fig. 60. WATHEROO, W. AUSTRALIA
MAY 1956

NBS 490

N. S. SIMPSON, NATIONAL BUREAU OF STANDARDS



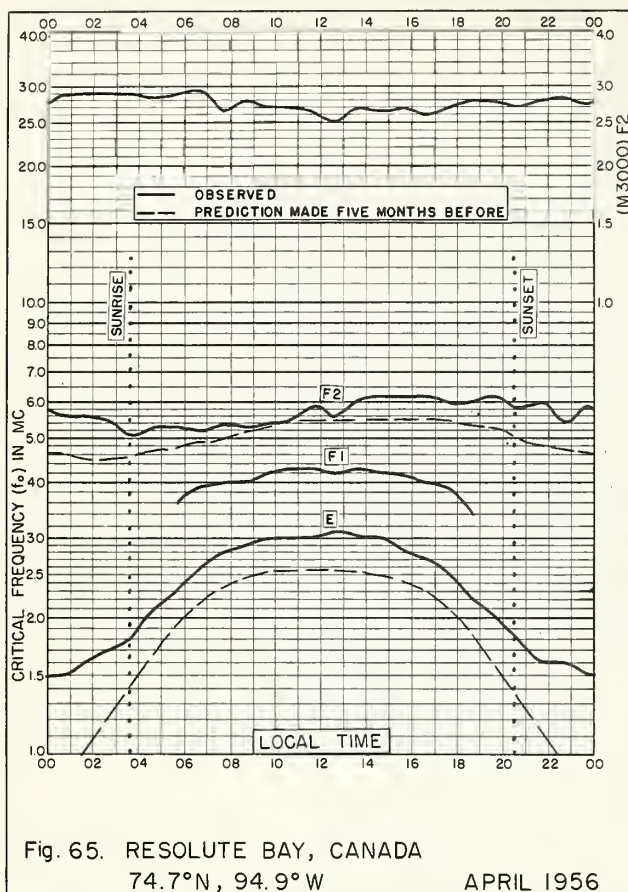


Fig. 65. RESOLUTE BAY, CANADA
74.7°N, 94.9°W

APRIL 1956

NBS 503

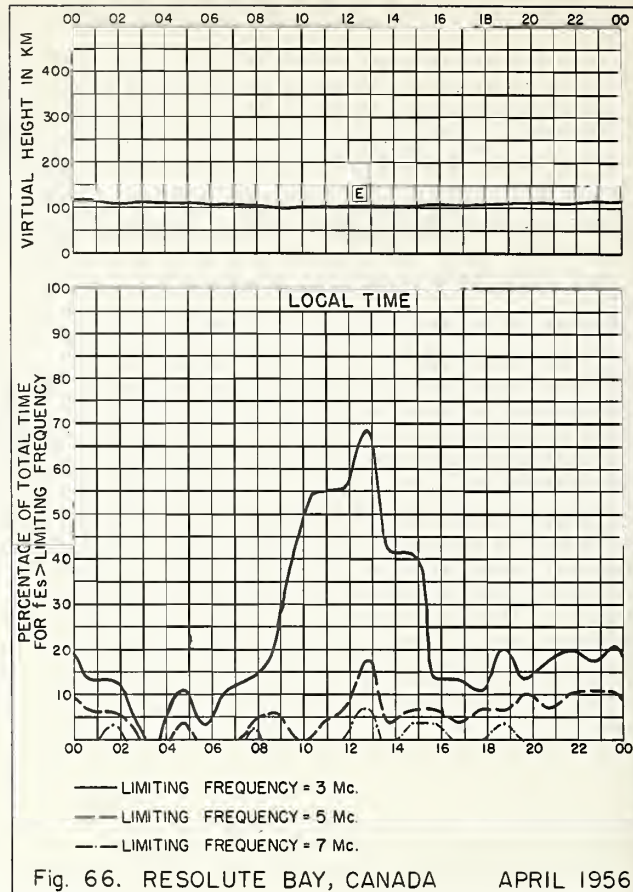


Fig. 66. RESOLUTE BAY, CANADA

APRIL 1956

NBS 490

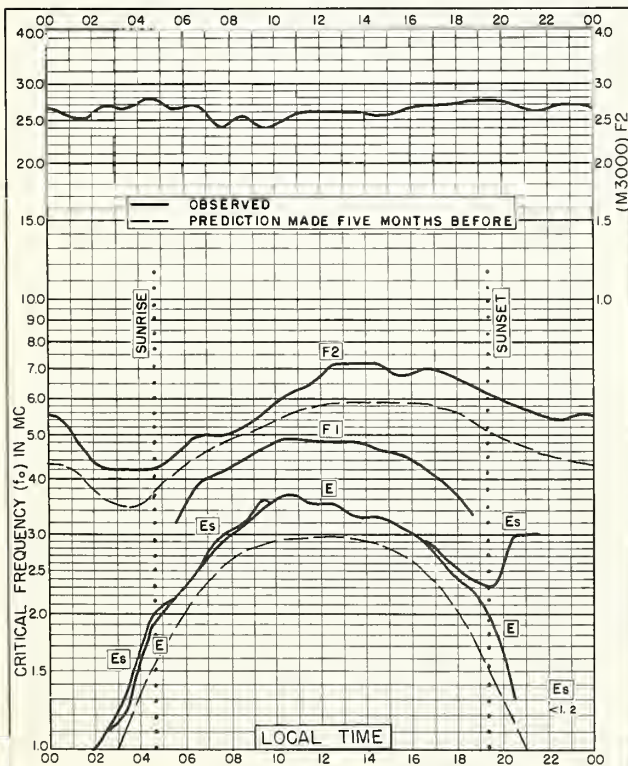


Fig. 67. BAKER LAKE, CANADA
64.3°N, 96.0°W

APRIL 1956

NBS 503

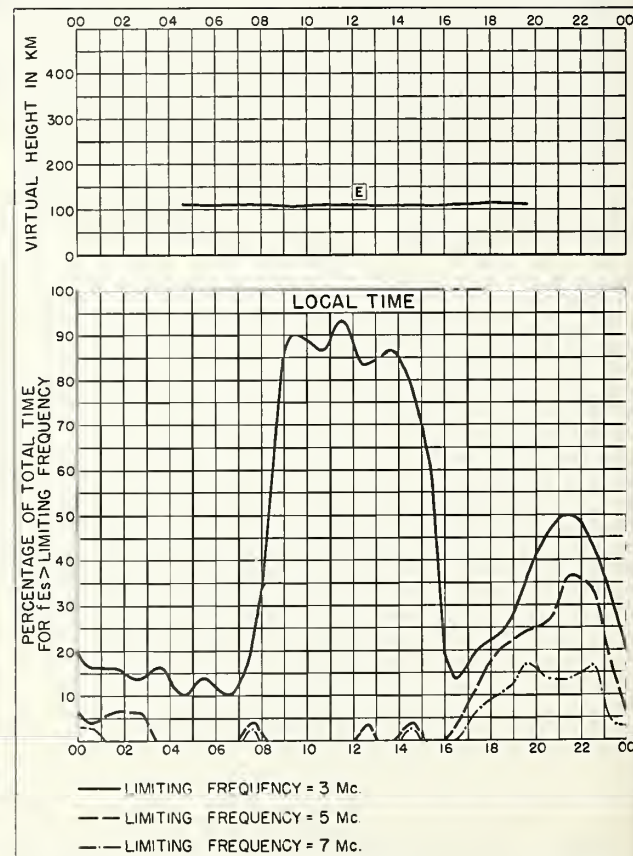


Fig. 68. BAKER LAKE, CANADA

APRIL 1956

NBS 490

U. S. DEPARTMENT OF COMMERCE

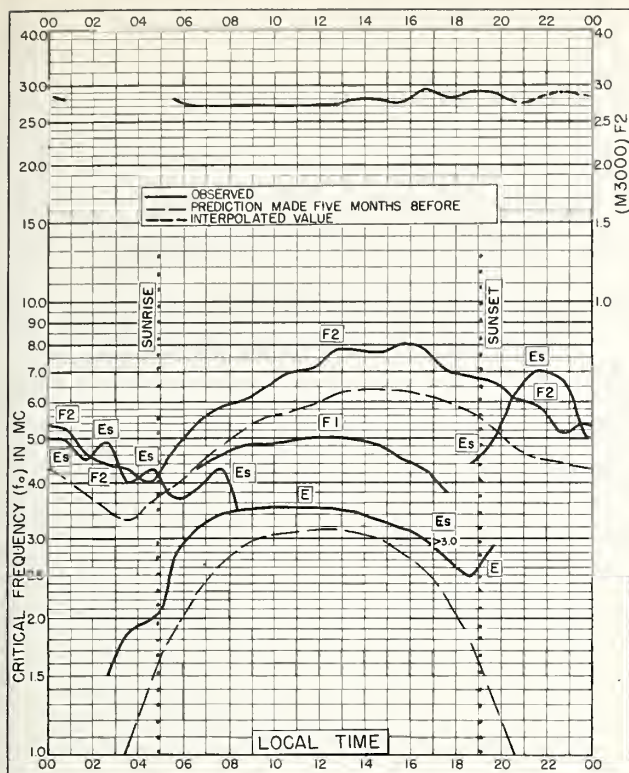


Fig. 69. CHURCHILL, CANADA
58.8°N, 94.2°W

APRIL 1956

NBS 503

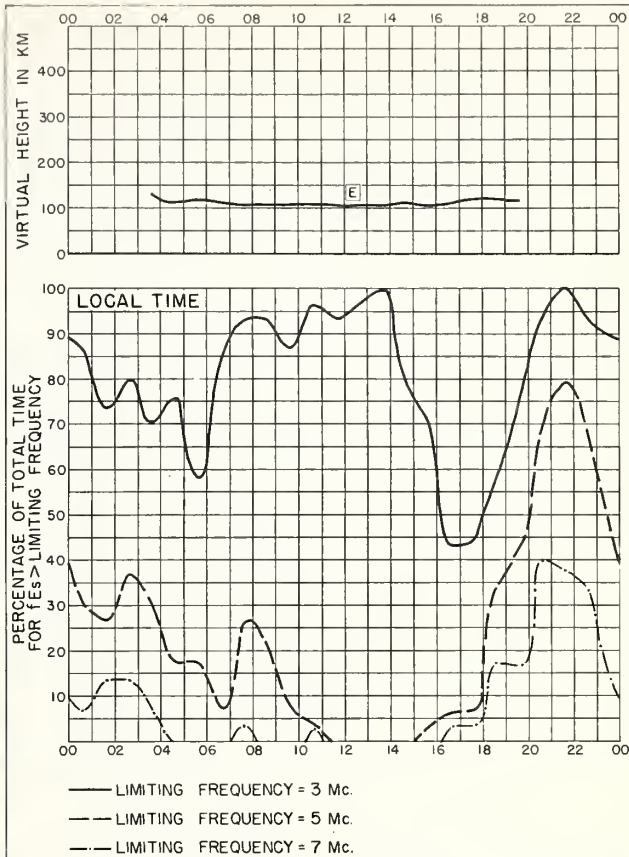


Fig. 70. CHURCHILL, CANADA

APRIL 1956

NBS 490

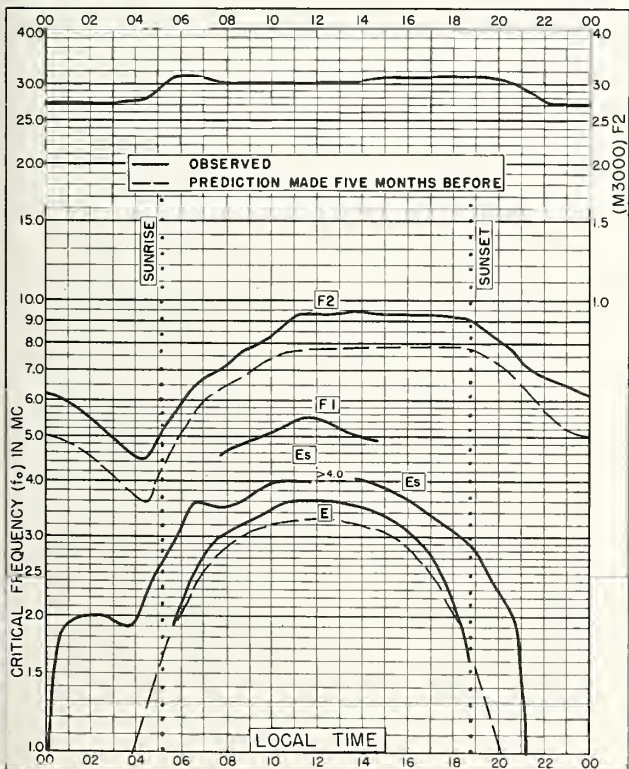


Fig. 71. LINDAU/HARZ, GERMANY
51.6°N, 10.1°E

APRIL 1956

NBS 503

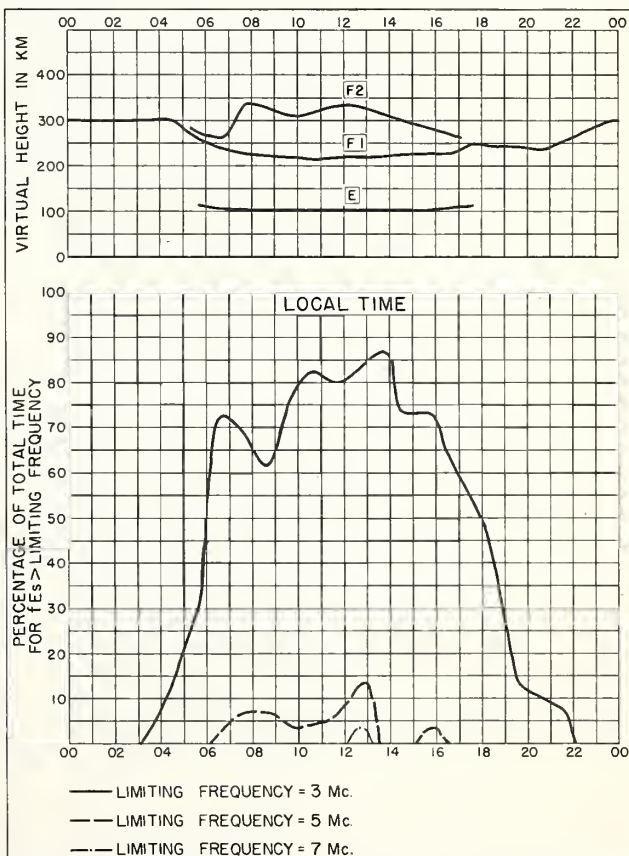
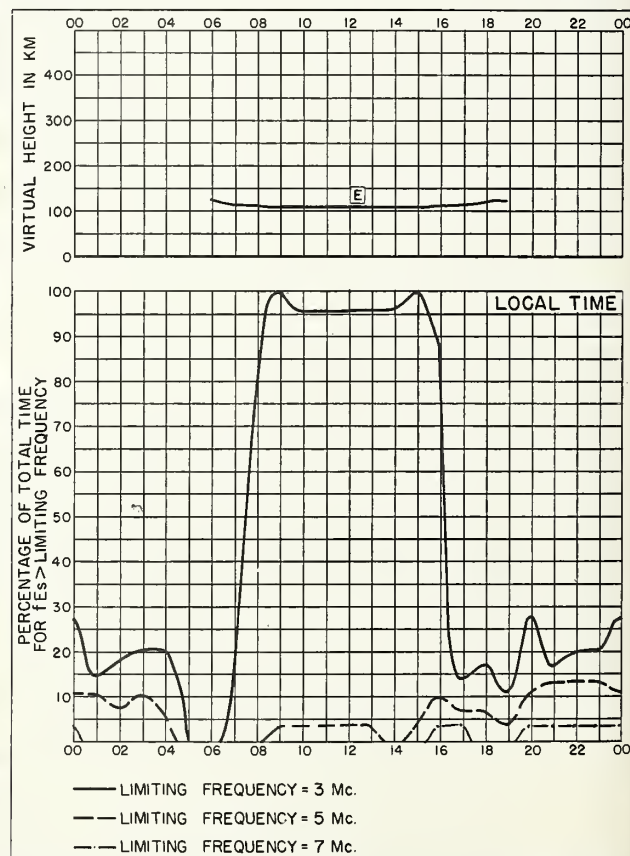
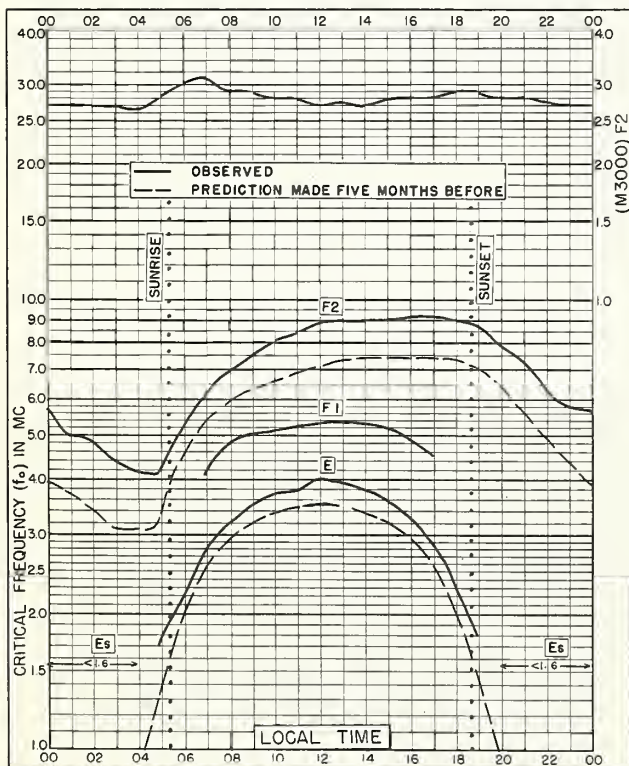
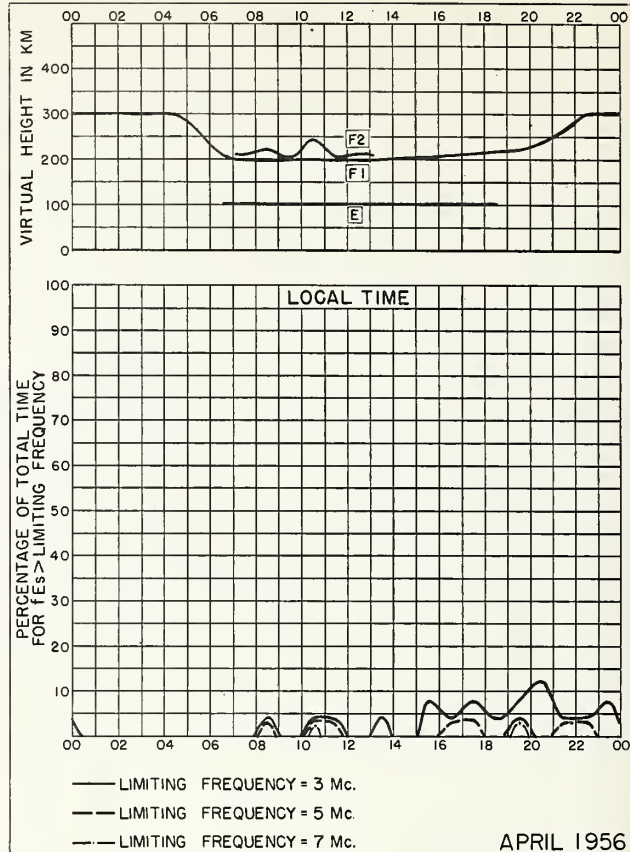
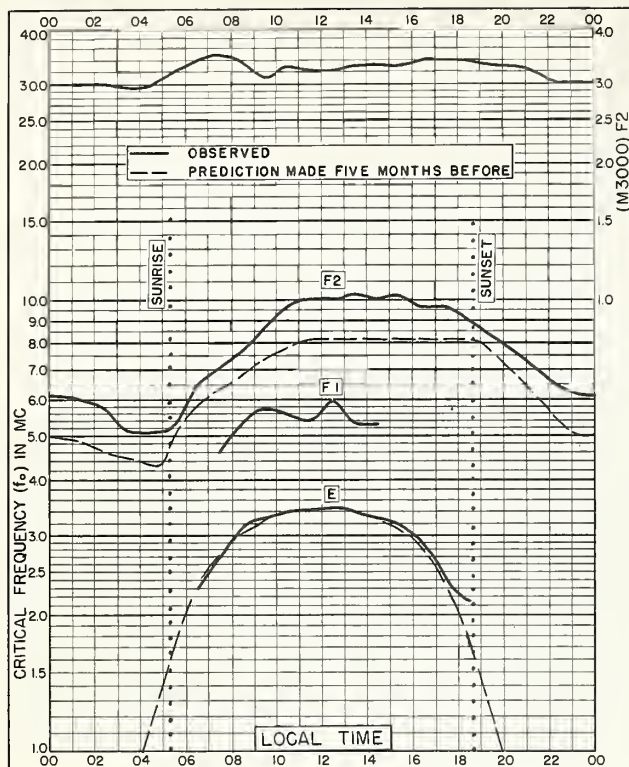


Fig. 72. LINDAU/HARZ, GERMANY

APRIL 1956

NBS 490

NBS 490



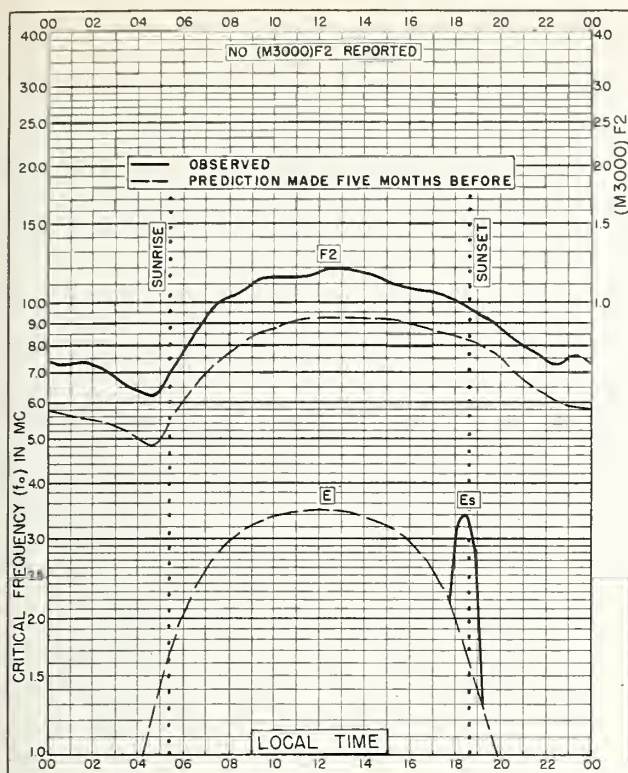


Fig. 77. WAKKANAI, JAPAN
45.4°N, 141.7°E

APRIL 1956

NBS 503

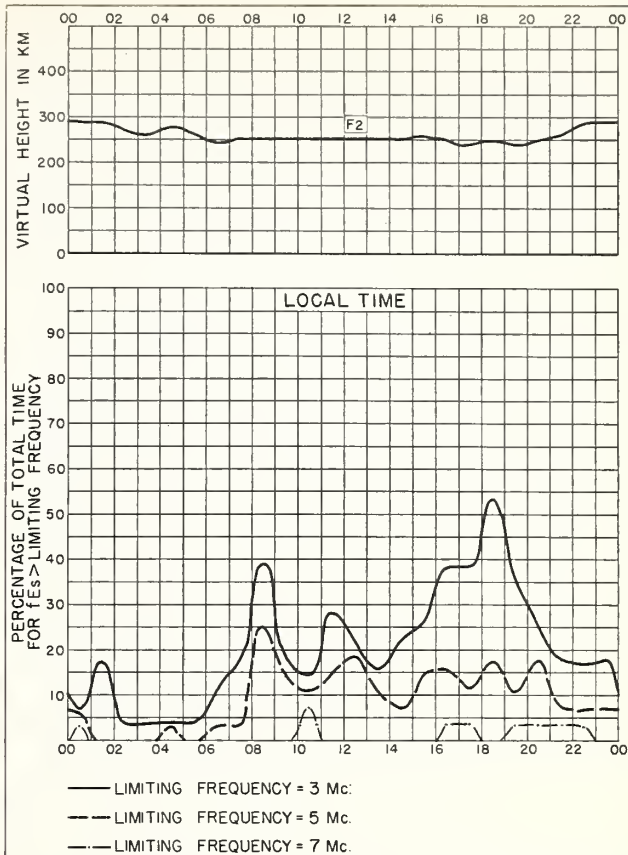


Fig. 78. WAKKANAI, JAPAN

APRIL 1956

NBS 490

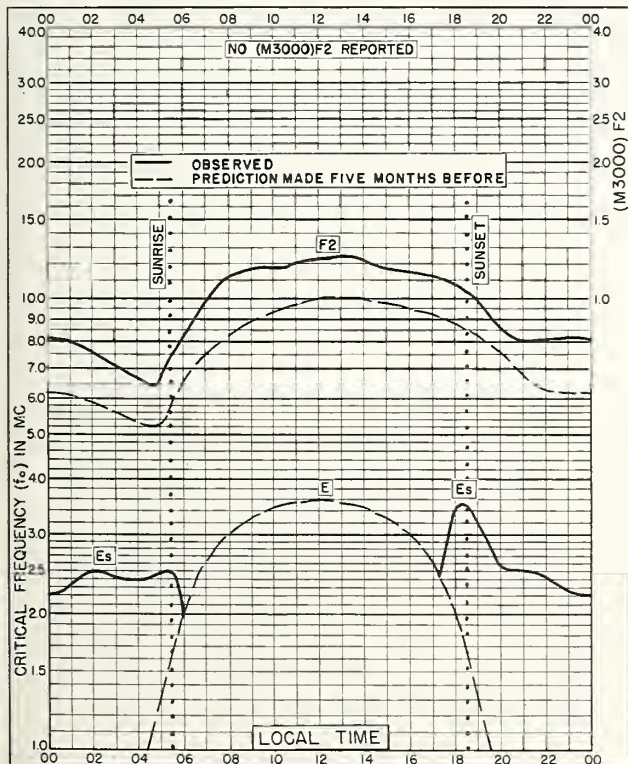


Fig. 79. AKITA, JAPAN
39.7°N, 140.1°E

APRIL 1956

NBS 505

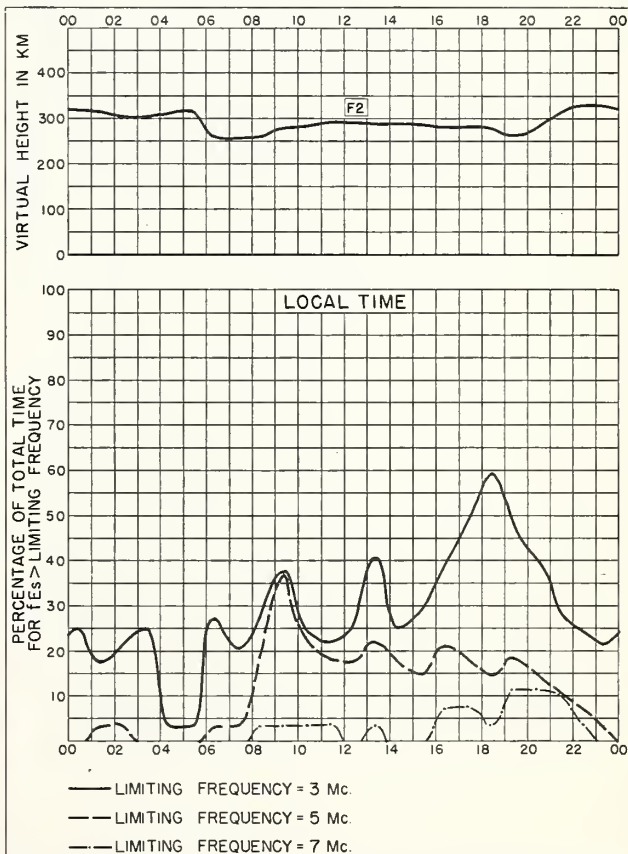


Fig. 80. AKITA, JAPAN

APRIL 1956

NBS 490

N. A. INTERNATIONAL RESEARCH OFFICE 312077

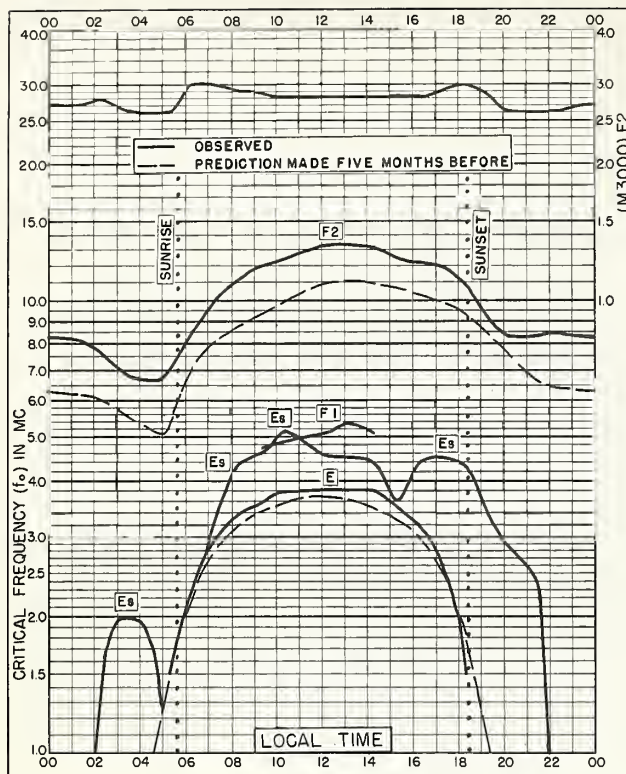


Fig. 81. TOKYO, JAPAN
35.7°N, 139.5°E

APRIL 1956

NBS 503

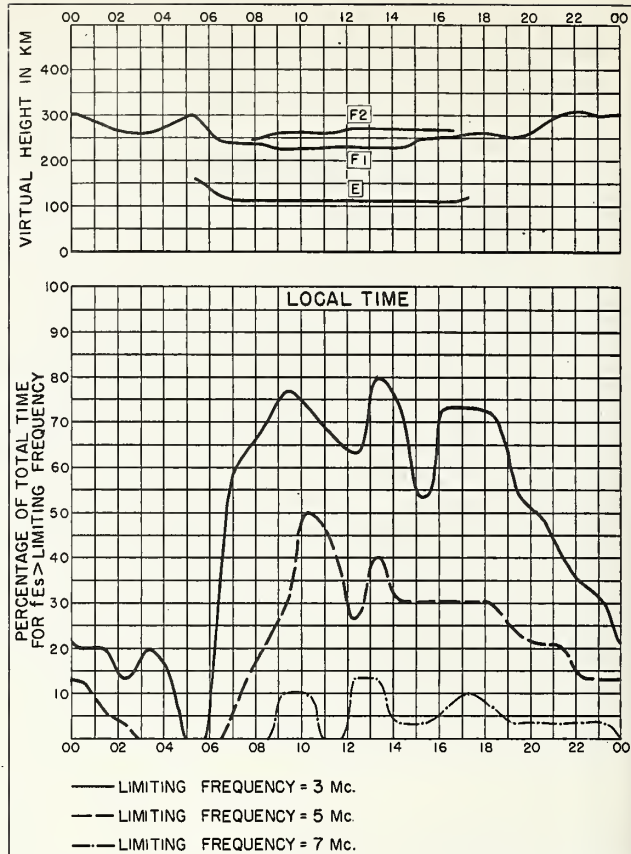


Fig. 82. TOKYO, JAPAN

APRIL 1956

NBS 490

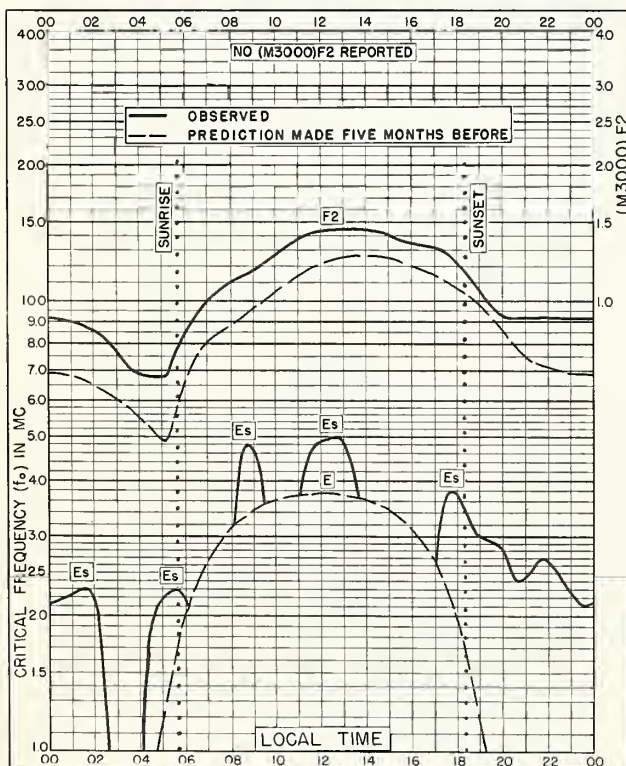


Fig. 83. YAMAGAWA, JAPAN
31.2°N, 130.6°E

APRIL 1956

NBS 503

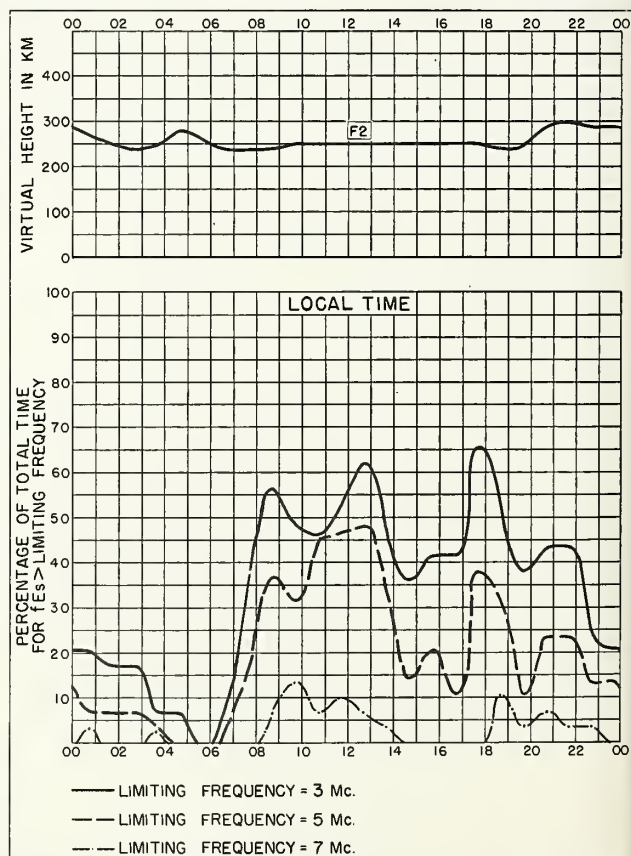


Fig. 84. YAMAGAWA, JAPAN

APRIL 1956

NBS 490

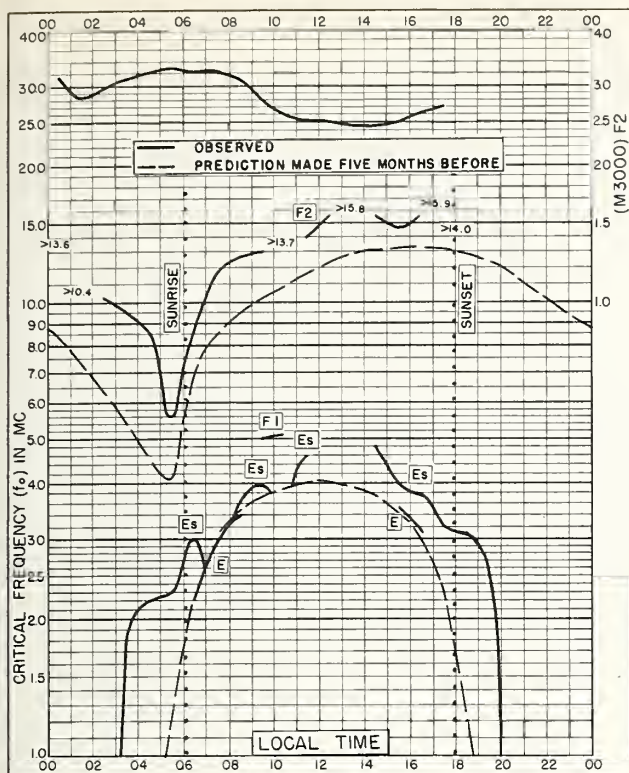


Fig. 85. NAIROBI, KENYA
1.3°S, 36.8°E

APRIL 1956

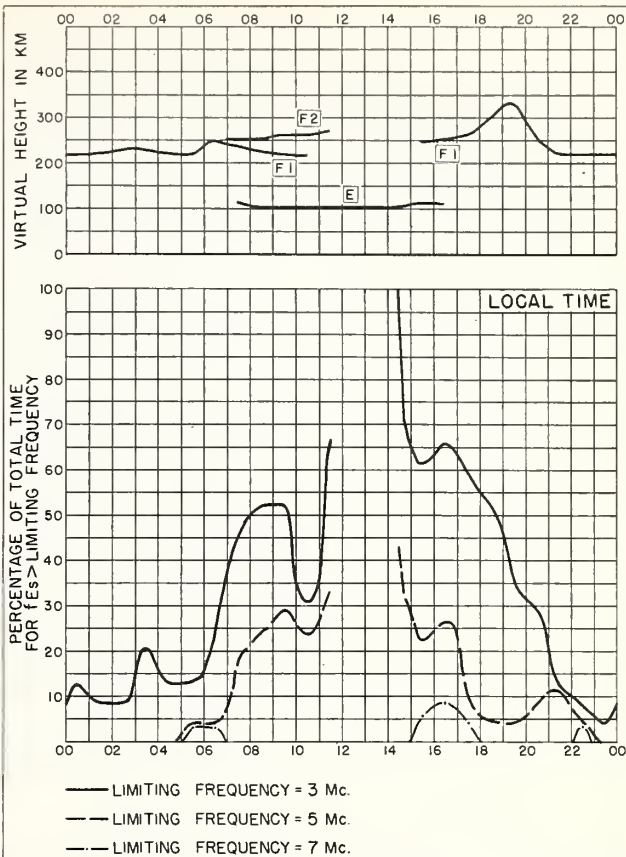


Fig. 86. NAIROBI, KENYA

APRIL 1956

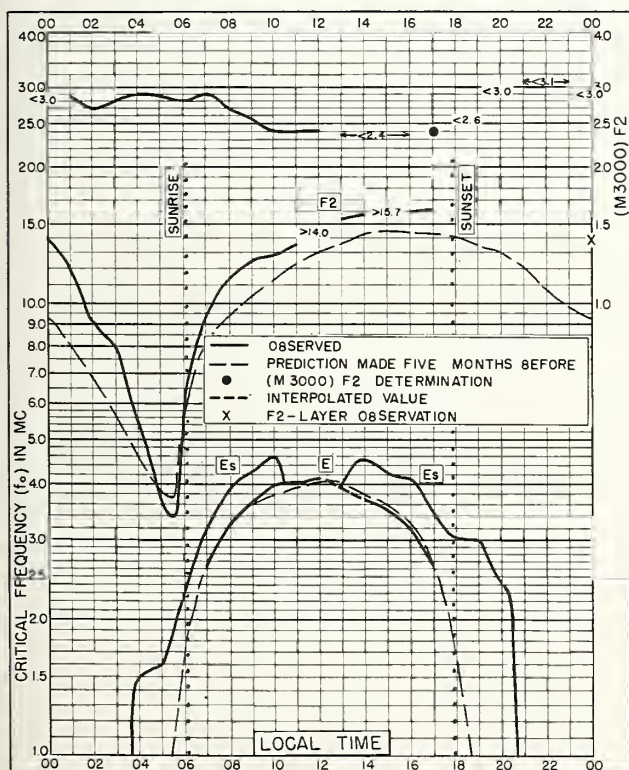


Fig. 87. LEOPOLDVILLE, BELGIAN CONGO
4.4°S, 15.2°E

APRIL 1956

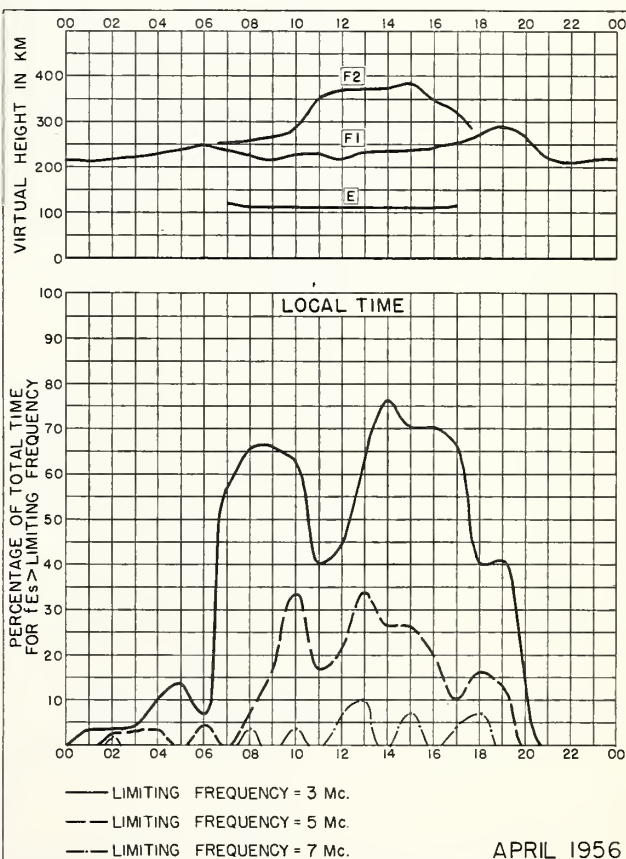


Fig. 88. LEOPOLDVILLE, BELGIAN CONGO

APRIL 1956

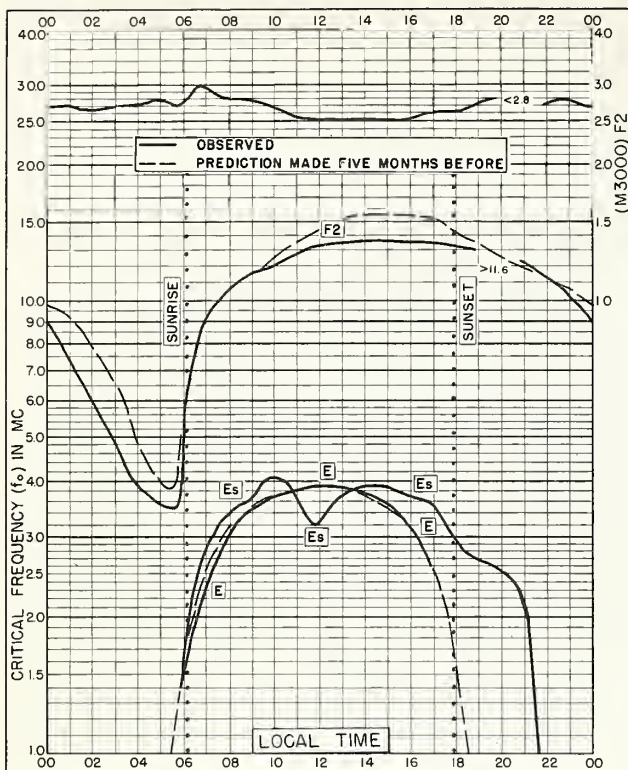
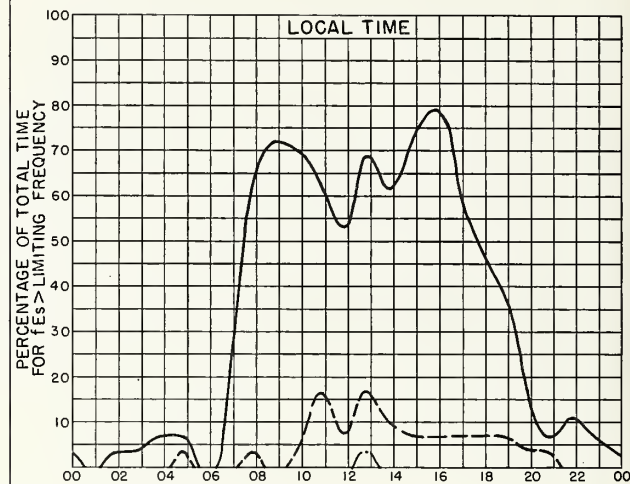
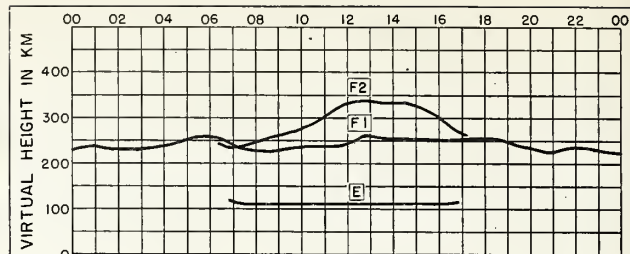


Fig. 89. ELISABETHVILLE, BELGIAN CONGO
11.6°S, 27.5°E
APRIL 1956



— LIMITING FREQUENCY = 3 Mc.
- - - LIMITING FREQUENCY = 5 Mc.
- · - · - LIMITING FREQUENCY = 7 Mc.

APRIL 1956

Fig. 90. ELISABETHVILLE, BELGIAN CONGO

NBS 490

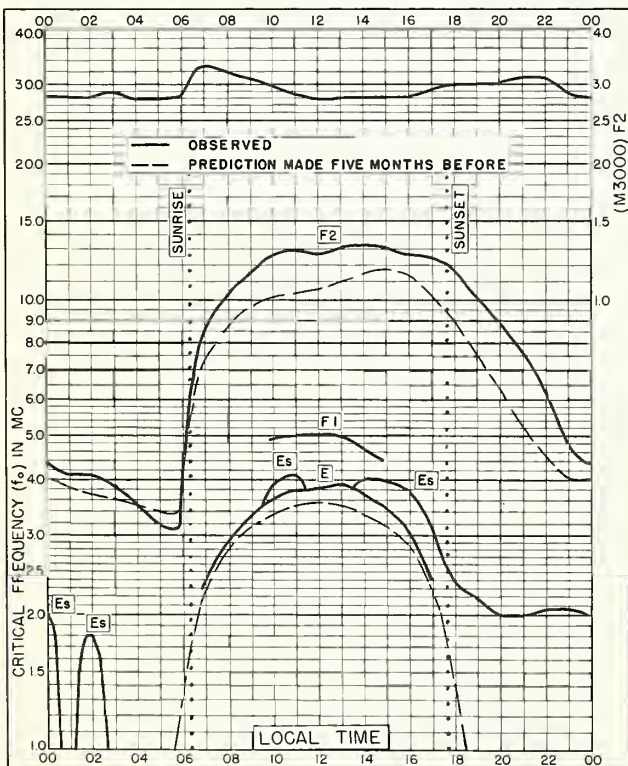
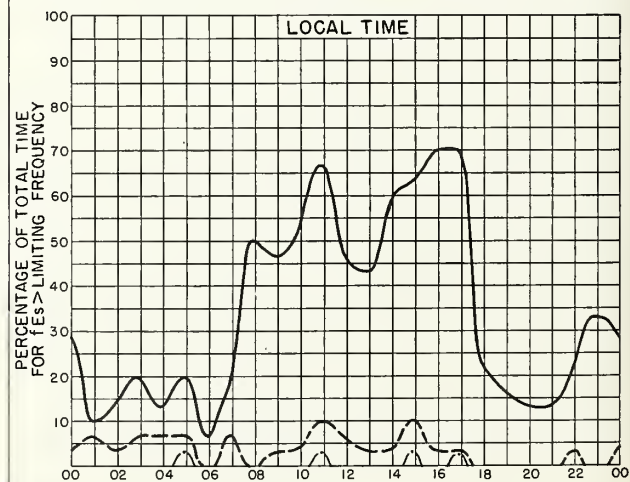
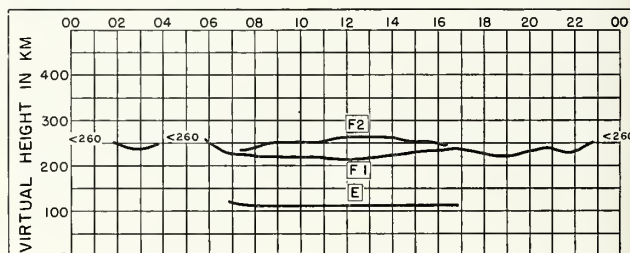


Fig. 91. JOHANNESBURG, UNION OF S. AFRICA
26.2°S, 28.1°E
APRIL 1956



— LIMITING FREQUENCY = 3 Mc.
- - - LIMITING FREQUENCY = 5 Mc.
- · - · - LIMITING FREQUENCY = 7 Mc.

APRIL 1956

Fig. 92. JOHANNESBURG, UNION OF S. AFRICA

NBS 490

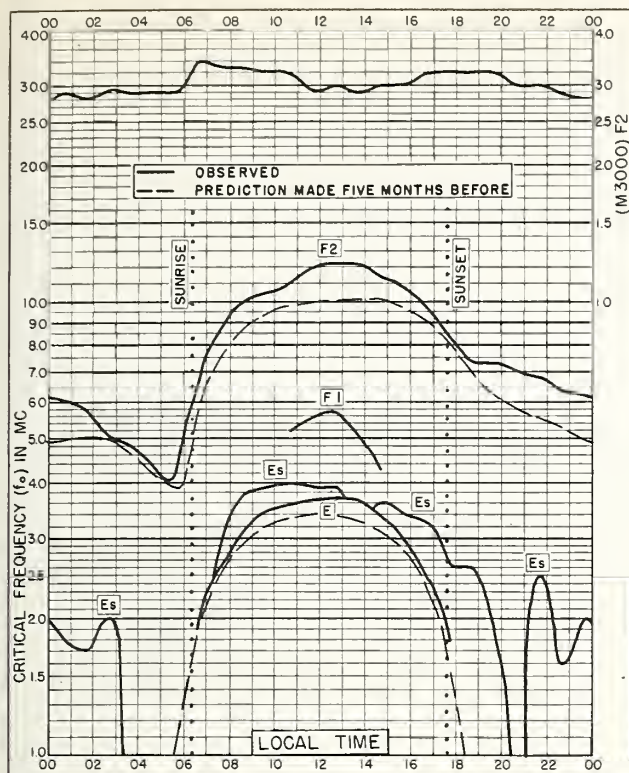
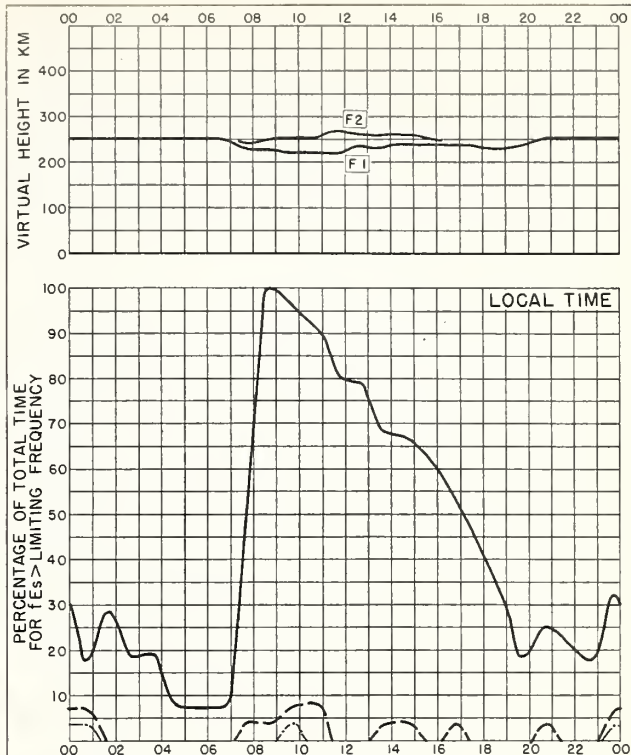


Fig. 93. WATHEROO, W. AUSTRALIA
30.3°S, 115.9°E
APRIL 1956

NBS 503



— LIMITING FREQUENCY = 3 Mc.
— LIMITING FREQUENCY = 5 Mc.
— LIMITING FREQUENCY = 7 Mc.

Fig. 94. WATHEROO, W. AUSTRALIA
APRIL 1956

NBS 490

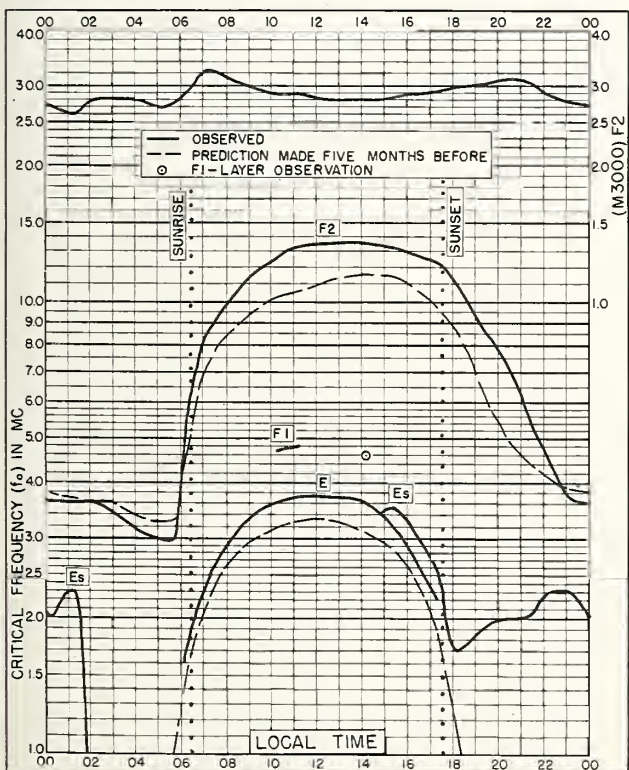
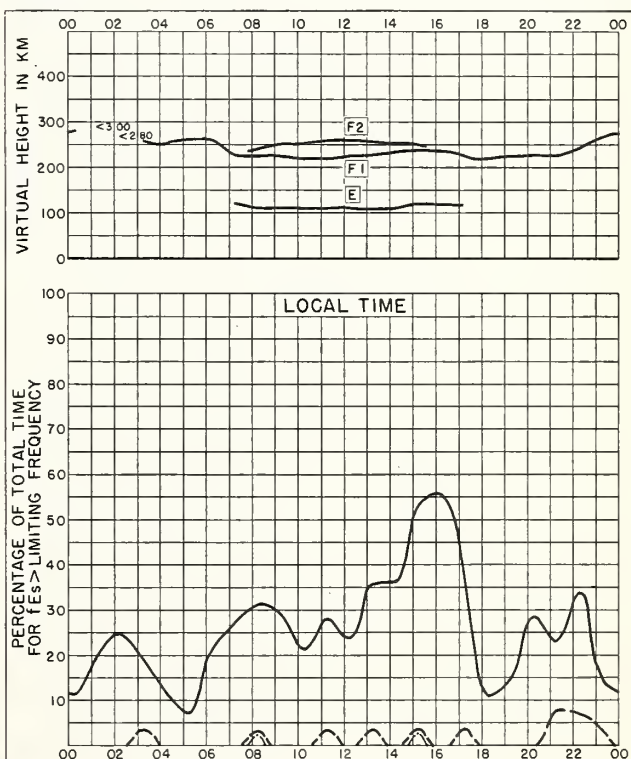


Fig. 95. CAPETOWN, UNION OF S. AFRICA
34.2°S, 18.3°E
APRIL 1956

NBS 503



— LIMITING FREQUENCY = 3 Mc.
— LIMITING FREQUENCY = 5 Mc.
— LIMITING FREQUENCY = 7 Mc.

Fig. 96. CAPETOWN, UNION OF S. AFRICA
APRIL 1956

NBS 490

N. B. S. 503

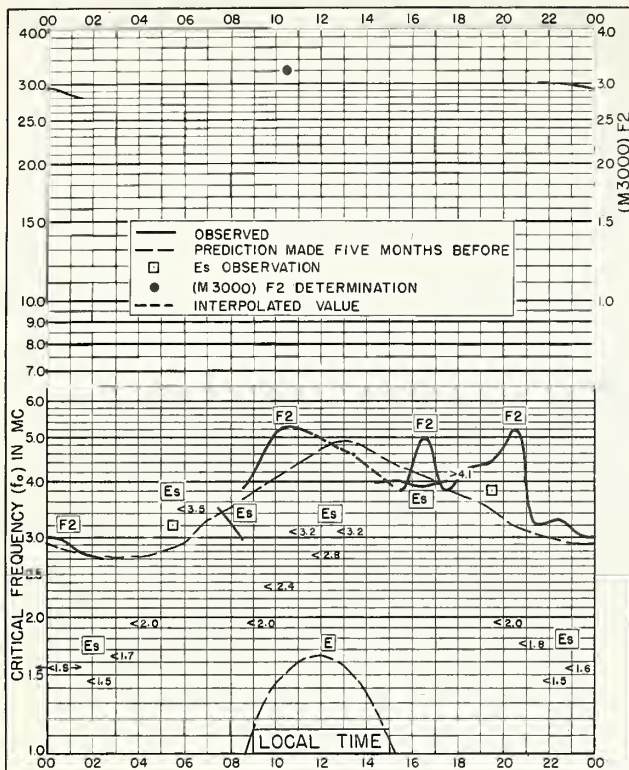


Fig. 97. GODHAVN, GREENLAND
69.2°N, 53.5°W DECEMBER 1955

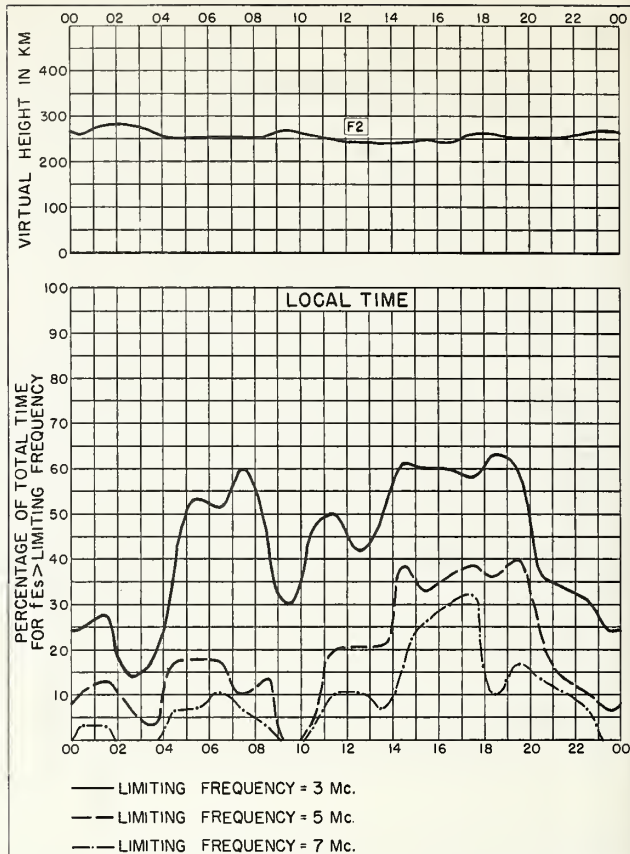


Fig. 98. GODHAVN, GREENLAND DECEMBER 1955

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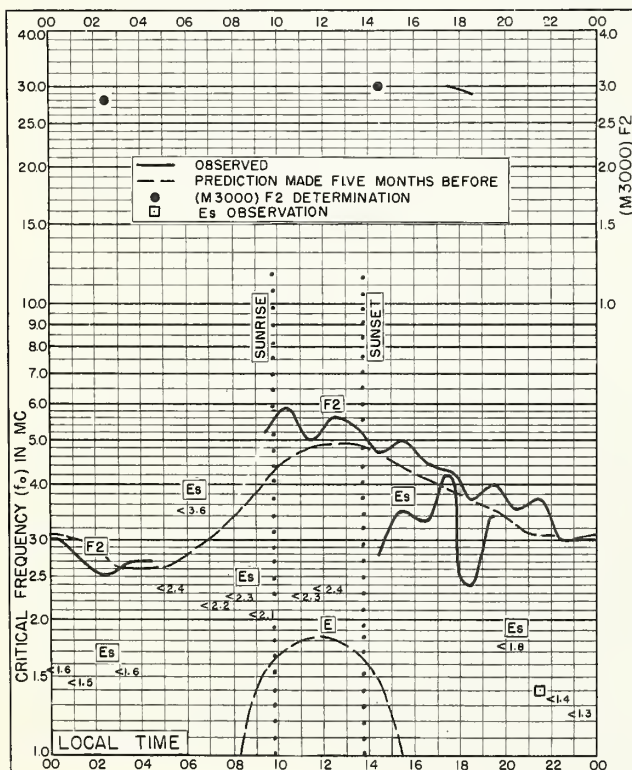


Fig. 99. GODHAVN, GREENLAND
69.2°N, 53.5°W NOVEMBER 1955

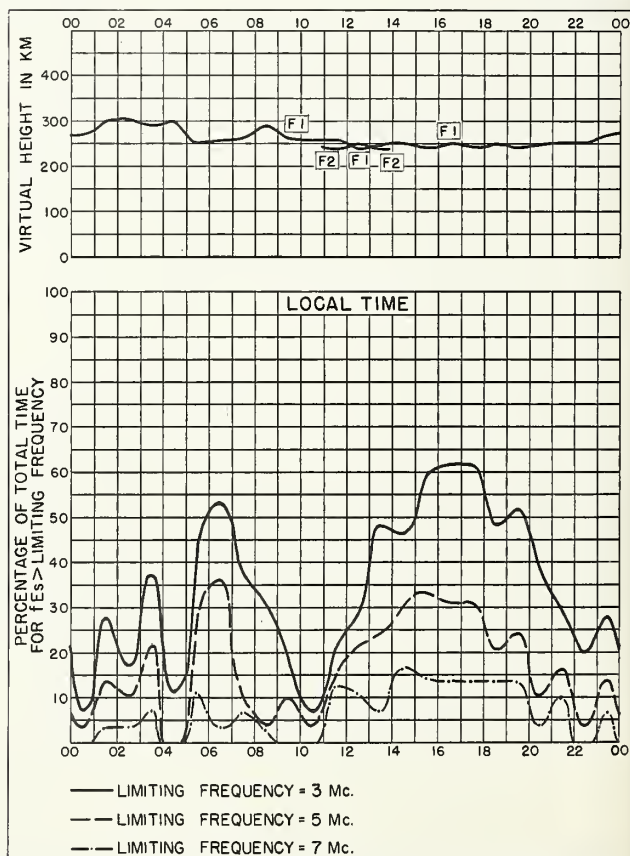


Fig. 100. GODHAVN, GREENLAND NOVEMBER 1955

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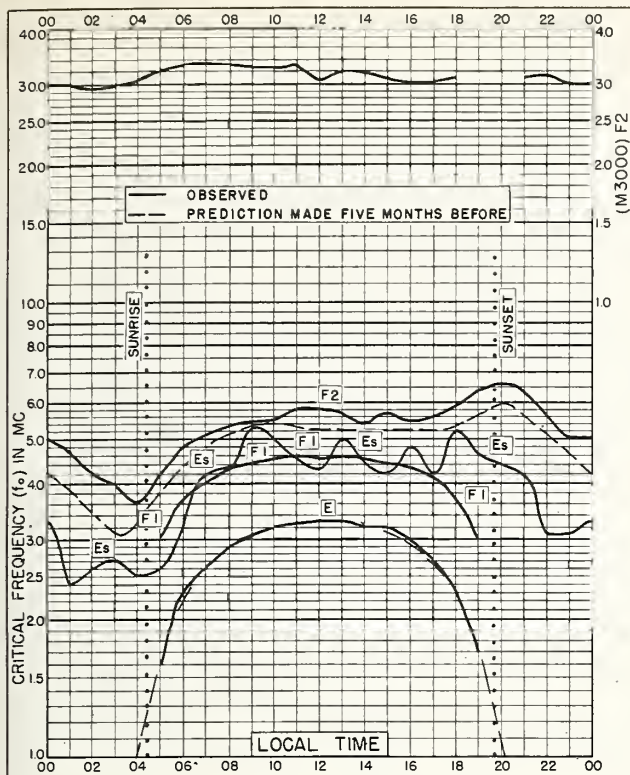


Fig. 101. POITIERS, FRANCE
46.6°N, 0.3°E

JULY 1955

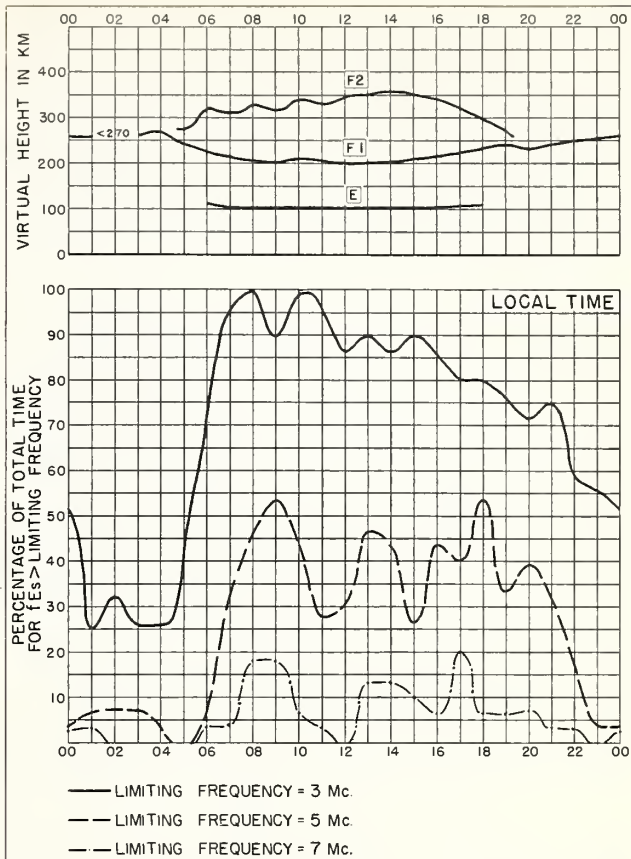


Fig. 102. POITIERS, FRANCE

JULY 1955

NBS 490

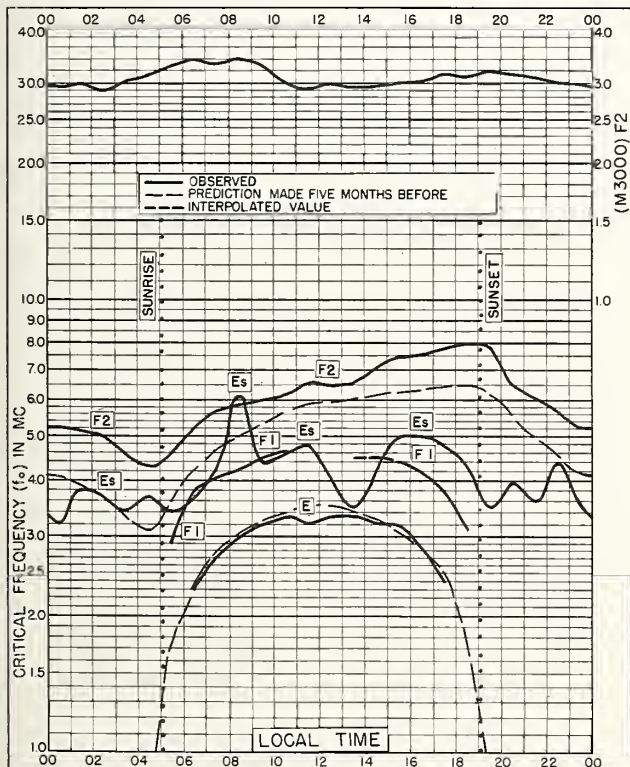


Fig. 103. CASABLANCA, MOROCCO
33.6°N, 7.6°W

JULY 1955

NBS 503

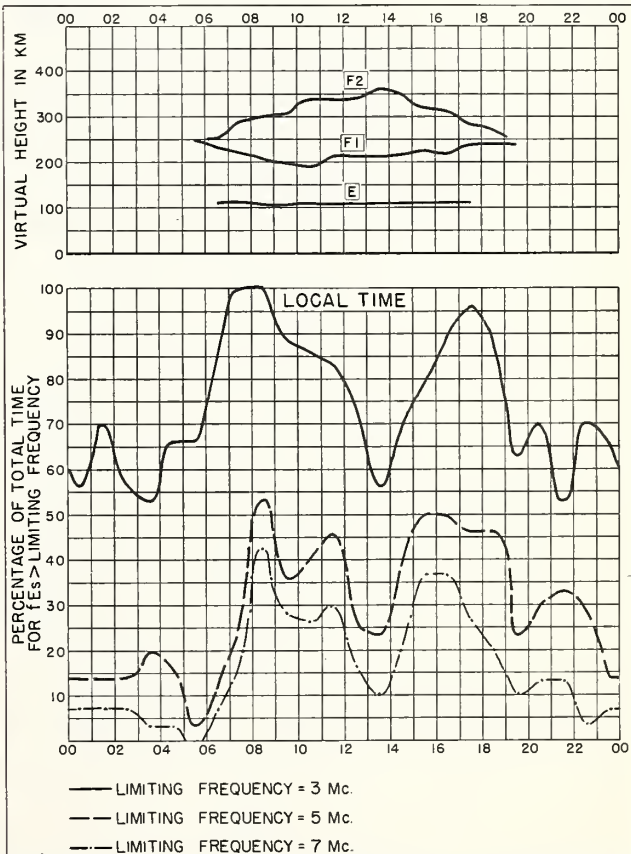


Fig. 104. CASABLANCA, MOROCCO

JULY 1955

NBS 490

NBS 503

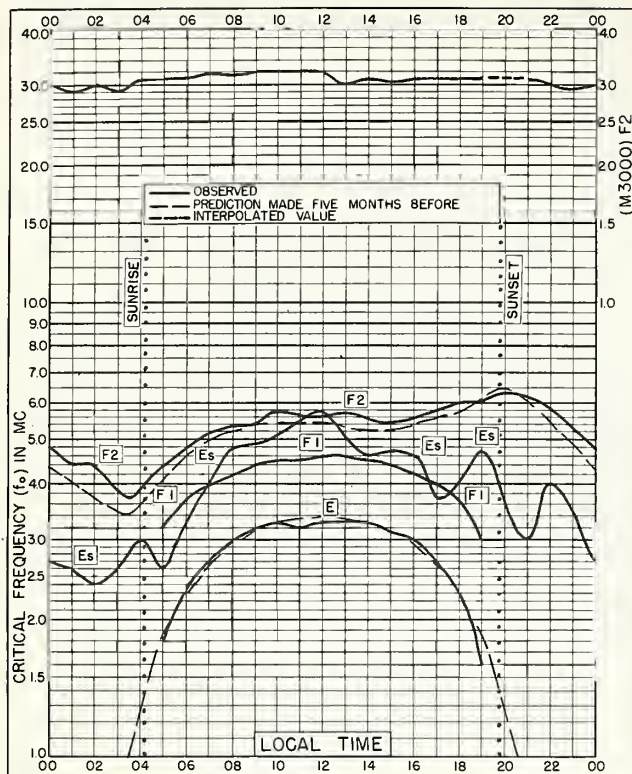


Fig. 105. POITIERS, FRANCE
46.6°N, 0.3°E

JUNE 1955

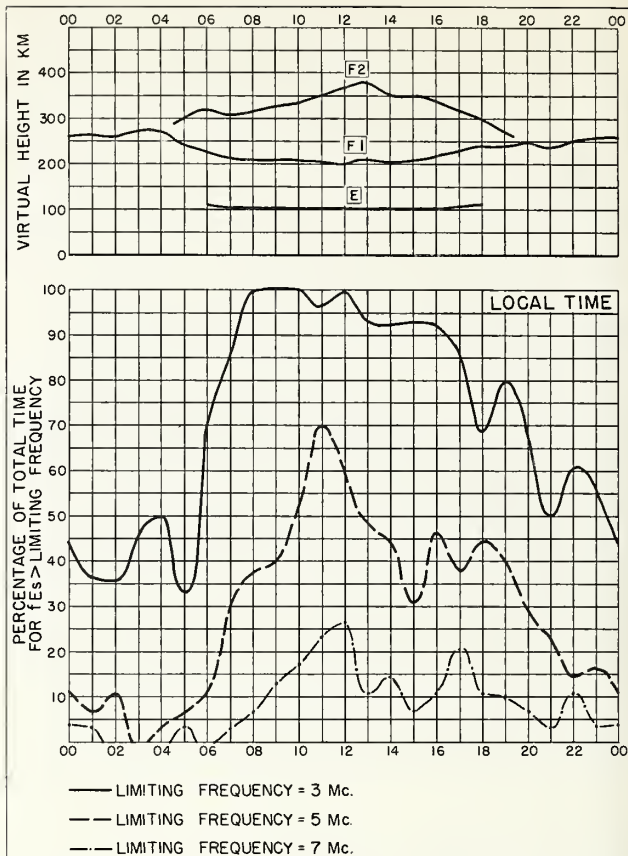


Fig. 106. POITIERS, FRANCE

JUNE 1955

NBS 490

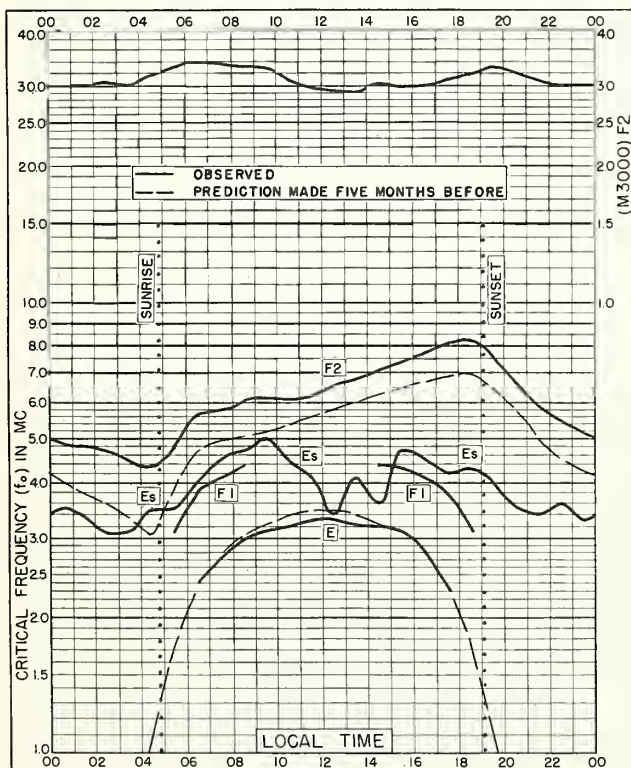


Fig. 107. CASABLANCA, MOROCCO
33.6°N, 7.6°W

JUNE 1955

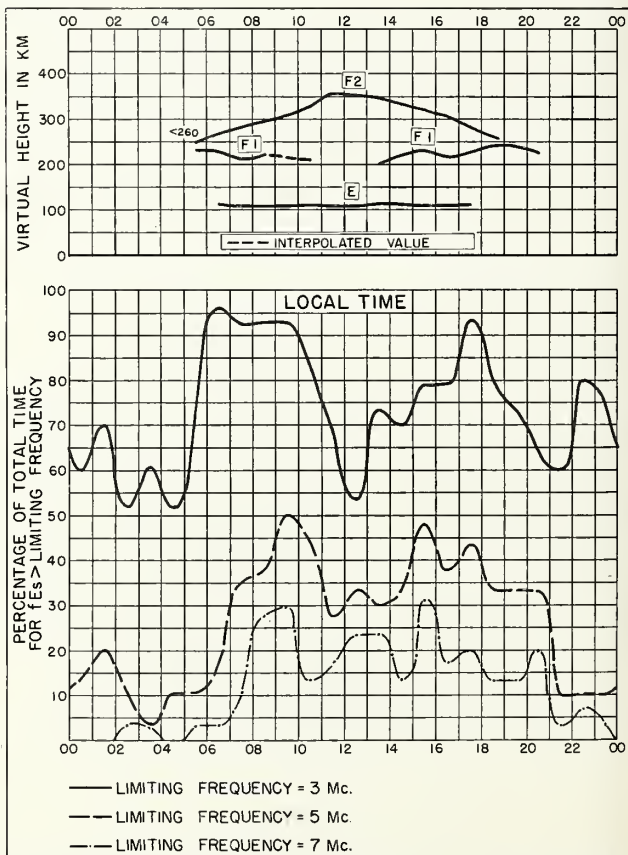
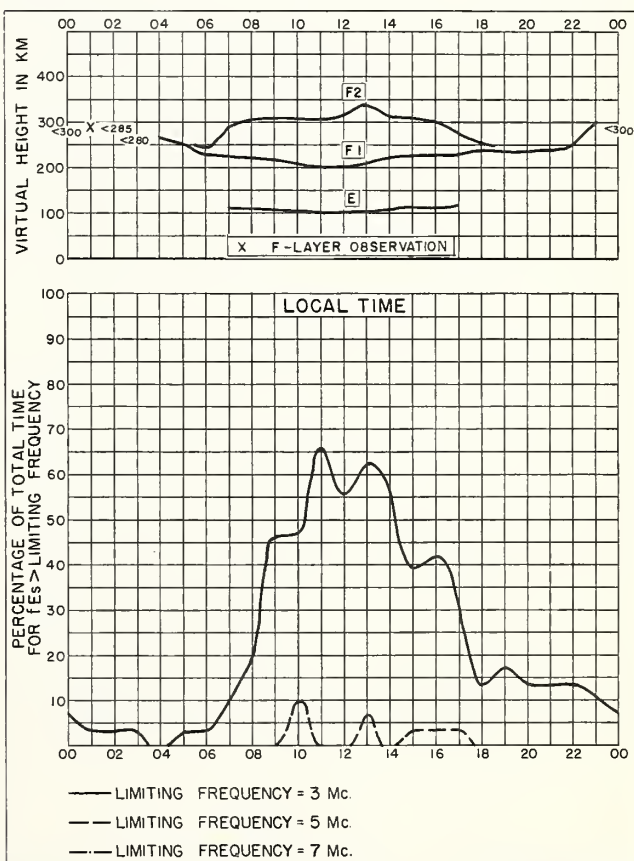
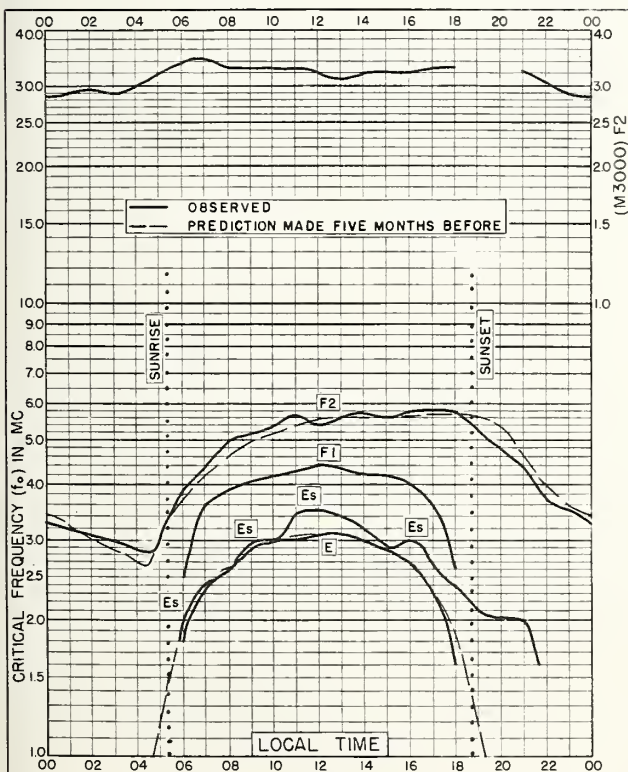
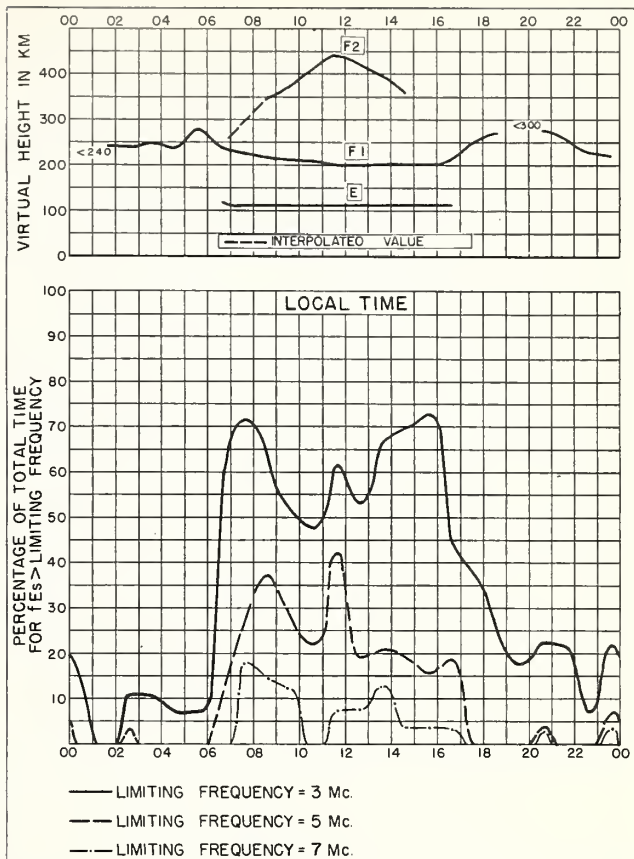
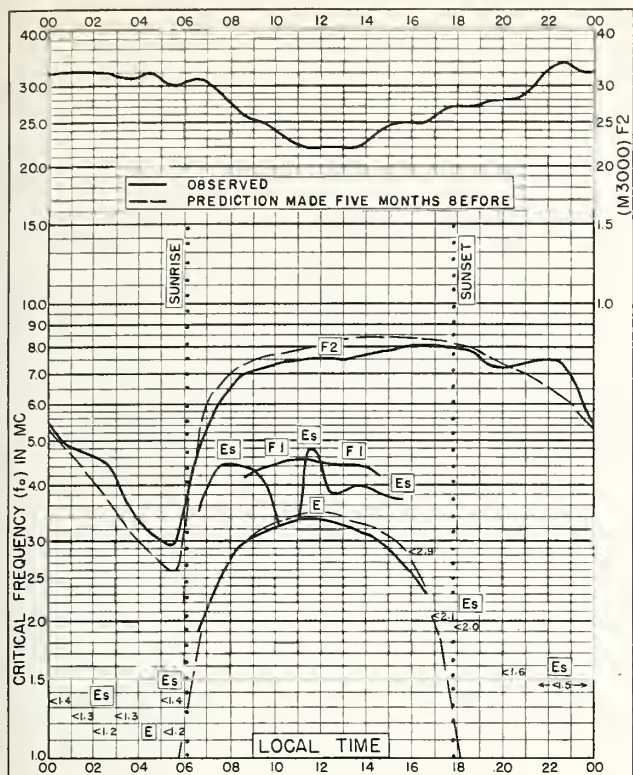


Fig. 108. CASABLANCA, MOROCCO

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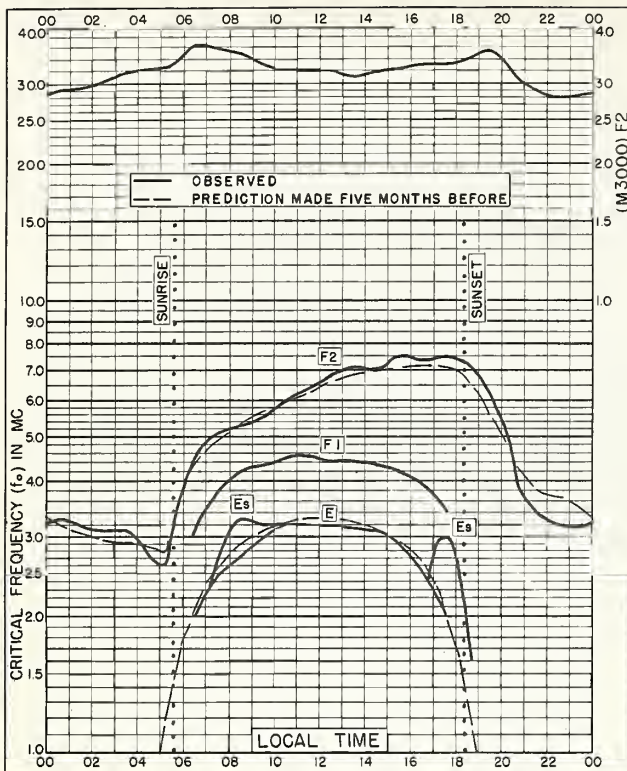


Fig. 113. CASABLANCA, MOROCCO
33.6°N, 7.6°W

APRIL 1955

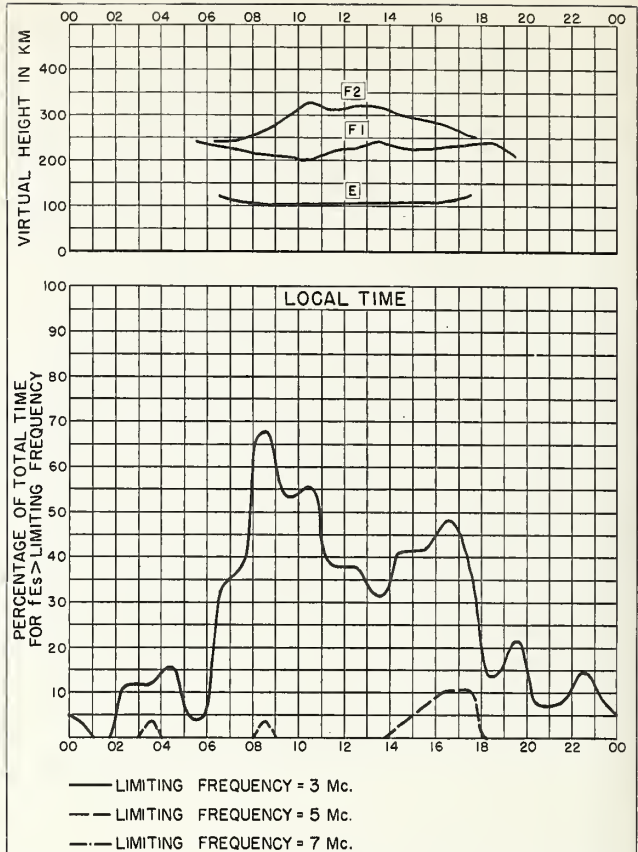


Fig. 114. CASABLANCA, MOROCCO

APRIL 1955

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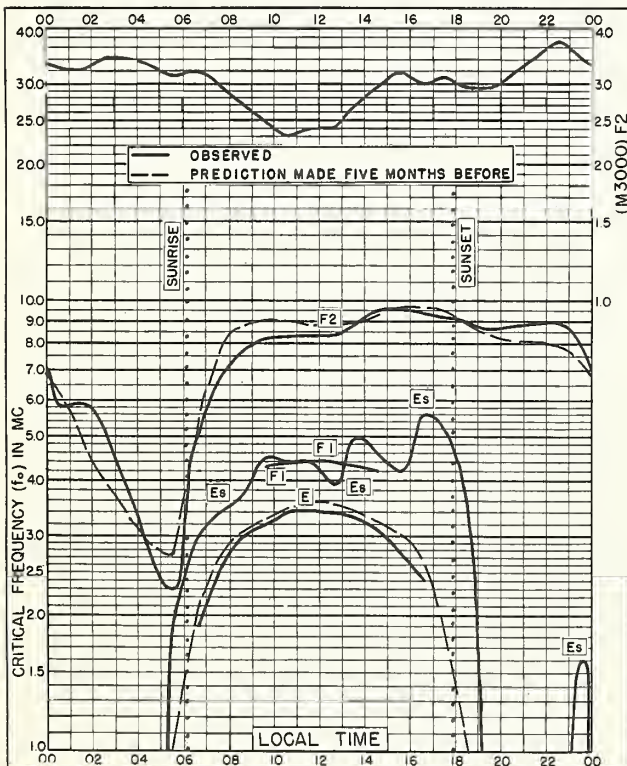


Fig. 115. TALARA, PERU
4.6°S, 81.3°W

APRIL 1955

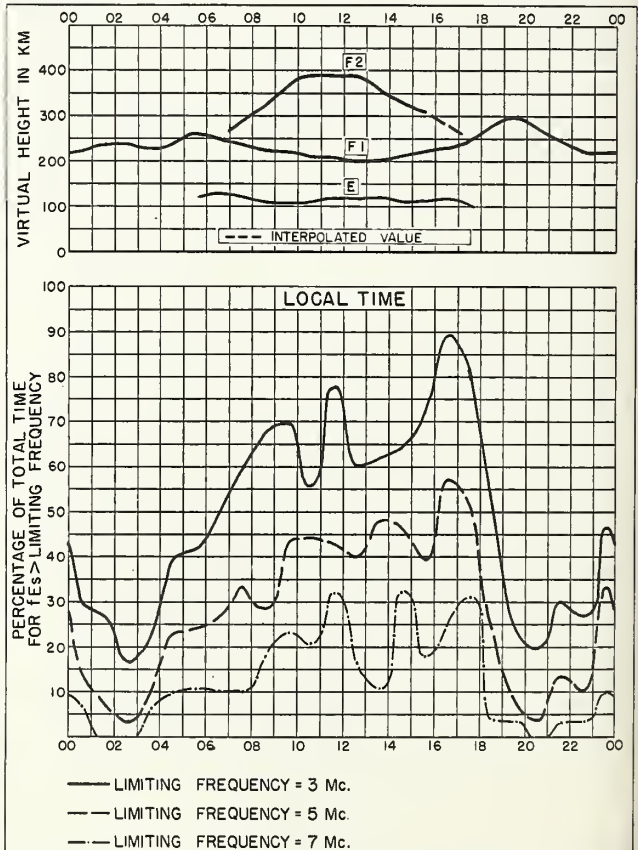


Fig. 116. TALARA, PERU

APRIL 1955

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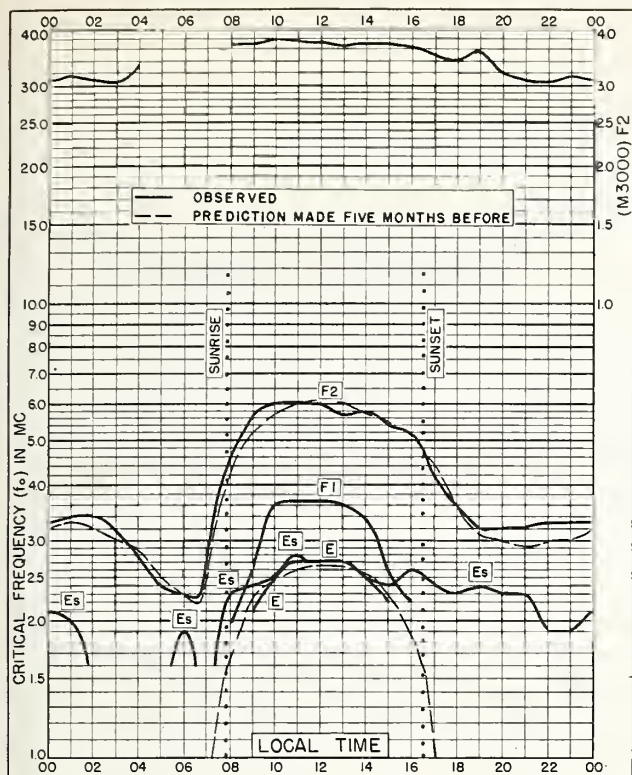


Fig. 117. POITIERS, FRANCE
46.6°N, 0.3°E

JANUARY 1955

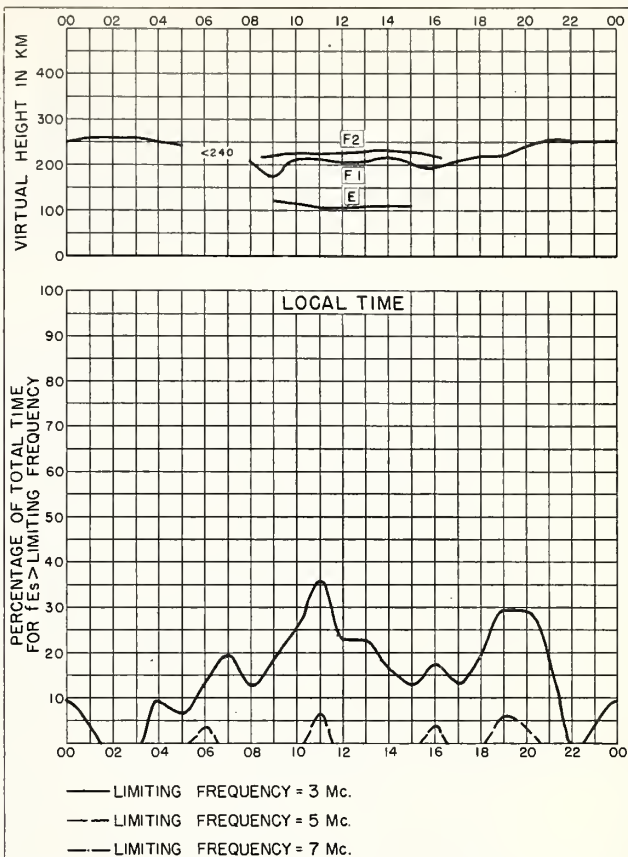


Fig. 118. POITIERS, FRANCE

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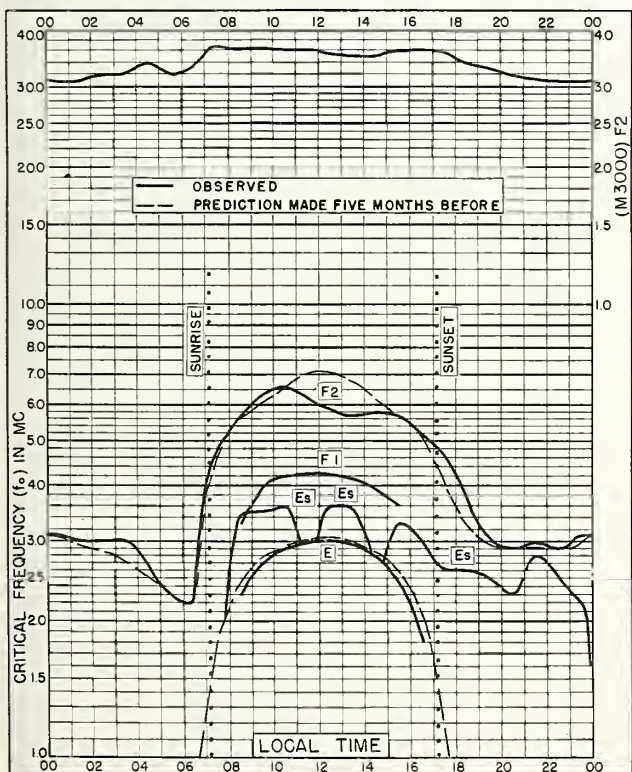


Fig. 119. CASABLANCA, MOROCCO
33.6°N, 7.6°W

JANUARY 1955

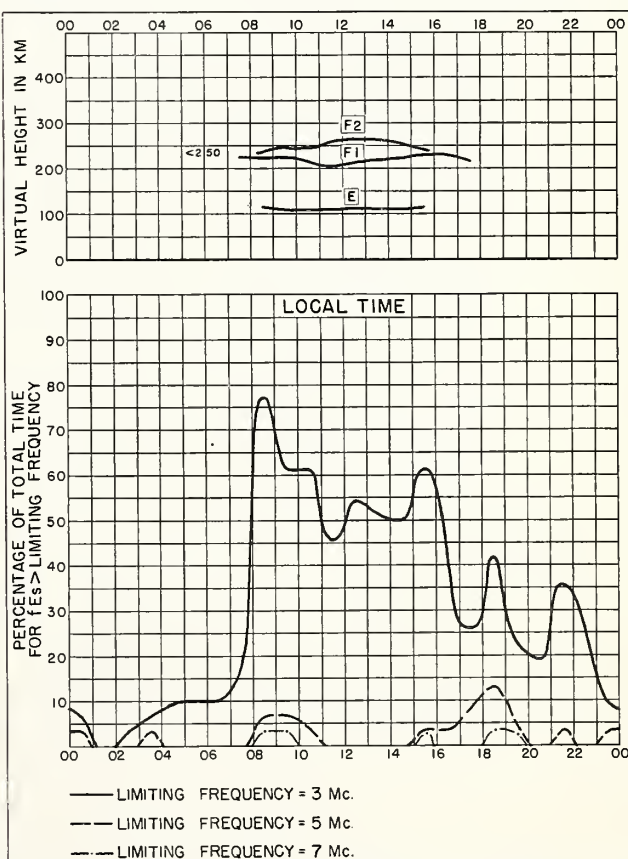


Fig. 120. CASABLANCA, MOROCCO

JANUARY 1955

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CRPL—Jp. North Pacific Radio Propagation Forecast (of days most likely to be disturbed during following month).

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CRPL—D. Basic Radio Propagation Predictions—Three months in advance. (Dept. of the Army, TB 11-499-, monthly supplements to TM 11-499; Dept. of the Air Force, TO 31-3-28 series). On sale by Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C. Members of the Armed Forces should address cognizant military office.

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